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A Monthly Agricultural Journal, Designed to Benefit the Planter, Farmer Gardener, Fruit Grower and Stock Raiser.

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CULTIVATION OF FOREST TREES.

In the two preceding numbers of the *Valley Farmer*, for the present year, we have said something upon the subject of the "Destruction of Forests, and its Influence upon Climate and Agriculture." We now propose to continue the subject by giving some plain, practical directions for the cultivation of forest trees, particularly upon those fertile portions of the country where nature has withheld the growth of timber.

The cultivation of forest trees has long attracted the attention of the people of foreign countries. The want of ship and building timber has rendered this branch of cultivation absolutely necessary, and hence it commands, not only the attention of the most intelligent landed proprietors, but the power of the government. In the older settled portions of our own country, the scarcity of timber is severely felt, and the attention of cultivators has already been directed to the restoration of forests.—These facts, in view of the disastrous physical effects upon the country, to which we referred at some length in our former articles, should serve as a warning to those who have heretofore made such indiscriminate slaughter upon the native forests. There are thousands of situations, upon the banks of the streams, and on hills and ridges, where the soil is of inferior quality, fit only for the growth of timber, which should be preserved to meet the economical demands of the people; and there are thousands of acres, similarly situated, that have already been denuded of the primitive forests, which should now be protected and encouraged to produce a second growth.

It is found in many parts of the immense prairies, that where the country has long been settled, and the native grasses partially subdued by fires, and by the cattle, that a variety of the native trees of the country spring up, and, with slight protection, grow with great luxuriance. How greatly would the general aspect of the country be changed and improved, giving health and comfort to the inhabitants, if these groves should become general over our vast Western prairies. Where these do not spring up *spontaneously*, the poorer lands upon the ridges, and along the water courses, should be planted with the seeds of the most valuable kinds of timber. No investment could be made, at so small a cost, that would so materially enhance the value of the farms, to say nothing of the beauty and comfort that would be added to the country at large.

The successful cultivation of various kinds of forest trees, is a matter as simple as that of a crop of corn. The only difference is, while one brings an immediate return to the pockets of the farmer, which may be spent or lost in a day, the other adds permanent value, beauty and health to the estate and country.

We shall name a number of the most valua-

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ble kinds of timber trees, and the method of propagating and cultivating them. The sides of every prairie farm, most exposed to the prevailing winds, should be protected by a skirt of timber. This would occupy but a few acres of each farm. They should be planted around the dwelling house and along the roads, in the pastures and by the watering places, near the barn and about the outhouses; in short, every place not set apart for ordinary farm culture.

What a change might thus be wrought in the whole aspect of the country, from a boundless sea of prairie, to one of the most inviting and beautiful countries the world can afford. No element of beauty is so completely manageable, as trees, and especially in a soil abounding in the extreme of fertility. By a judicious selection and planting of even a few varieties, of our native trees, upon the level and monotonous prairies, the level plain may be made to assume all the beauties of a naturally wooded, undulating landscape. Some varieties of trees grow habitually to the height of but thirty or forty feet, while others rise to sixty, ninety, or more. The taller trees should be placed in the centre of a group, which, at a distance, will seem to occupy a hill, and the lower growing kinds upon the outside will form a gradual descent to the plain. Trees to be planted around the residence should be selected, also, in some degree, in reference to the comparative and varied hues of their foliage. Each tree has its own color or rather its own class of colors, tints and shades, which belong to it. In Spring and Summer, these will present the various beautiful shades of green, and early autumn is rendered gay with the vivid crimson of the tupelo and the sumach, and at a later period is presented the rich orange and yellow of the sugar maple, with the gold and scarlet of the red and flowering maple, while the other varieties present the more subdued shades common to the hickory, poplar or tulip tree, the oak, &c.

The most of our native forest trees are readily propagated from seeds. The most essential precaution to insure success is the proper treatment of the seed, between the period of maturity and the time of planting. The acorns and nuts generally loose their vegetating power, as soon as they become dry. Hence, it is important, that the seed should be gathered as soon as they fall, and placed in boxes of earth or sand, and protected from rats and fowls, and exposed to the weather until the ground can be put in order for planting early in the Spring. The boxes should be open, so that the excess of water can drain off freely. Black and white walnuts, hickory nuts, chestnuts and acorns, may all be treated in this way. Chestnuts, and the acorns, of the various kinds of oaks, are most liable to injury from too much moisture, or too great a degree of heat. It would be well to place them in boxes under an open shed and the sand should be kept only moderately moist, while they may be exposed to any degree of cold. The earliest possible moment, when the ground is in order, in the Spring, it should be well broken up and harrowed, for a nursery of fruit trees. The earth or sand should then be riddled from the seed, and planted in drills, at such distance apart, as to admit of cultivation with a horse. The seeds may be planted, one or two inches apart, in the drills, and covered about one and a half or two inches deep, with light earth or leaf mould. The young plants should be allowed to stand in the nursery one or two years, and be well cultivated. In order to cause an increased growth of lateral roots, and insure greater success in transplanting, it would be advisable to shorten the *tap root* of every plant as it stands in the rows. This should be done about the time the buds begin to swell in the first Spring after planting. A thin chisel or sharp knife is the best instrument for the purpose, and should be thrust under the centre of the plant so as to cut the root, say four inches or more, from the surface of the ground, and in no event removing more than half the average length of the root. This will cause an increased number of roots to put out, at the point that has been shortened, and render future transplanting comparatively safe. At the same time the top of the plants should be cut back to within two inches of the ground.—Trees grown in this way, in nursery rows, are improved in this respect, by being carefully transplanted, the second Spring, into nursery rows, and the distance between the plants increased. The trees may be transplanted where they are finally to stand, at any time after they are two years old, according to the growth they have made. At the time of transplanting, the branches should be shortened, leaving but two or three buds to each of them, of the previous season's growth. It has been further recommended by successful growers of forest trees, to cut back the main stem, to a prominent bud, the second Spring after the trees have been removed to their place of final destination. This shortening of the main stem causes a more vigerous, symmetrical, upright growth, and adds to the beauty of the tree, and to the ultimate value of the timber.

The poplar or tulip tree, the elm, and white and red maple, are all beautiful trees, and valuable for timber and fuel. The seeds of these require somewhat different treatment. The seeds of the elm and red and white maple fall early in the season. The blossoms put out before the leaves appear, and the seeds generally fall early in June. These should be immediately gathered and planted, very thick, in drills, in light, garden mould, and if kept moist, will vegetate immediately, and make a tolerable growth the same season. The following Spring they may be transplanted into nursery rows, at a wide distance apart, and should be well cultivated.

The rock or sugar maple matures its seed at a later period, and does not vegetate until the following Spring. If care be taken, great numbers of the young plants of this tree may be taken up in the vicinity of old trees, after they have reached two inches in height, and removed to the nursery. With a gardener's trowel they may be taken up with a small portion of earth, when they may be reset with as much certainty of success as cabbage plants.

The tulip tree is one of our most beautiful native trees. The roots are rather peculiar, being somewhat large and fleshy, with fewer fibers, and hence, when transplanted from the woods, at considerable size, are not so likely to grow, but when propagated from seed, and removed carefully, a few times, in the nursery rows, they form shorter and more abundant roots, and they may then be transplanted to the open ground without a failure.

The common locust is one of the most rapid growing trees, where the borer has not yet made its appearance. Nor can any other tree or crop be cultivated of greater value. A grove of thrifty locust, of thirty or forty years growth, will be worth one or two thousand dollars an acre, and every year adds to the demand and the value of the timber. The trees are easily propagated. Turn hot water to the seeds, and let them stand in a warm place, until they swell, and plant in drills early in the Spring, and afterwards treat as recommended for oaks, &c.

The pines and other evergreens, and the larch, may be easily grown, and will add beauty and variety to the landscape, besides affording great protection to men and animals, from the piercing winds in winter. The seeds of these trees may be planted in boxes of sand and light soil, and protected from the hot suns of Summer and from the severe weather, during the first winter, after which, the young plants may be transferred to the nursery.

The propagation of the various seedling trees, such as elm, ash, maple, beech, birch, linden, larch, and all the common varieties of evergreens, is carried on as a business by English nurserymen, and sold at one year's growth, at extremely low prices, and at that age, great numbers may be packed in a small compass, and transported at little expense. There are agents in New York who will order them, and where this can conveniently be done, it is cheaper than to attempt to raise them. The climate of England is peculiarly adapted to the propagation and growth of young trees. They require a moist atmosphere, and some of the more delicate evergreens in our dry, hot climate are apt to "damp off" while young, unless watched with considerable care.

Where farmers upon the prairies at present find it inconvenient to procure the seeds, or young plants, of many of the kinds we have named, they can easily make a beginning with the locust, which requires no more care and attention than a crop of corn, and thus secure some of the many advantages they are now deprived of, while the country is in its present naked condition.

POTATOES.

The Irish potato is one of the most profitable crops cultivated along our western rivers, and within a convenient distance of our railroads. The crop always finds a ready sale, at good prices, in all the principle towns and cities, and it often occurs that the home supply is not equal to the demand. Last year, large quantities of potatoes were imported. In early spring large supplies are received from Bermuda. This, of course, is not within the power of our own growers to prevent by any possible supply, because new potatoes are considered desirable, and they will command a good price over old ones, of our own growing. But, besides the early imported potatoes from the West India Islands, more than $10,000 worth, according to the report of the Secretary of the Treasury, were imported from England and Ireland, besides a large quantity from British America.—With our boundless facilities for growing this crop, and a crop too that pays better than almost any other, we should not be indebted to foreign countries for an article so bulky as that of potatoes.

America is certainly old enough to "go

alone," and instead of importing potatoes and breadstuffs, and manufactured goods, we should do our own manufacturing and raise the food to supply our laborers, and thus save heavy freights, commissions and the profits that now go to foreign producers and foreign manufacturers.

SEEDING MEADOW LAND.

According to our promise to a number of inquirers, we will conclude what we have to say on the subject of seeding meadows. In our Western climate we are limited to a small number of varieties of the grasses for hay, as mixed varieties succeed but to a limited extent.—Hay for commerce, which is a profitable branch of farming along our western rivers, is chiefly confined to timothy alone. Under the practice that prevails with many of our farmers in sowing timothy, much difficulty is frequently experienced in securing "a stand." The time and manner of sowing with these farmers is in the Spring, with oats or some other small grain.—This more frequently results in failure than in success, owing to the dry, hot weather that generally prevails in Spring and early Summer, and the overshadowing of the young grass by the grain. If timothy is to be sown in the Spring, upon land occupied with grain, it should be got in early and not more than two-thirds of the quantity of seed grain sown, that would be required, if no grass seed was to accompany it. But no farmer may expect to succeed, in this way, only under the most favorable circumstances of weather, from the time of sowing until the grass gets well rooted in the Fall. Some of the most successful farmers in this line, along the Ohio river, always sow their timothy in the Fall, upon land unoccupied with any other crop. The ground should be well prepared, as early in September as the rains will admit of the work being done, and the first favorable period the seed should be sown. It is important that the ground be thoroughly pulverized with the plow, then harrowed, rolled and again harrowed, and upon the fresh, broken soil, the seed should be sown, when it will require no other covering, unless, perhaps, with a very light brush; but if rain may soon be expected, it is better to be left after the harrow, without covering. Much of the seed of timothy and clover are lost by too deep covering, on land not finely prepared. It sometimes occurs, in extremely dry seasons, that the land is not in a suitable condition to plow, until after September. Under such circumstances, with a favorable Fall, timothy may do well sown as late as the 10th of October. Beyond this time the crop cannot be expected to make sufficient growth to withstand the effects of the frosts of Winter.

The quantity of seed sown to the acre is a matter of importance; too little is generally sown. One peck to the acre is *cheaper* than less—though the more common practice is one bushel to six or eight acres. Thin sowing either admits of the growth of weeds, to the great damage of the timothy, or the grass grows too coarse and woody to be palatable to stock.—One peck of seed to the acre, in a good season, will usually afford a much heavier crop of grass, of a finer and better quality than less; indeed, many farmers sow twice this quantity.

ORCHARD GRASS.

This grass is well adapted to our western soil and climate, and, in some respects, possesses advantages over any other variety—particularly in affording a full bite for cattle before other kinds have fairly started; it will also recover after being eaten off or mown, quicker than any other variety. It also sends its long roots well into the ground, which enables it to flourish in dry weather, when other sorts begin to fail. The seed, being coarse and light, requires more per acre, and at a greater cost, than when seeding with some other kinds.—But farmers may save their own seed at comparatively little cost.

In sowing orchard grass, as with all other kinds, much depends upon a well prepared soil, in order to insure a good start. Our Springs are uncertain as to rain, and no labor should be spared, in the outset, to insure the vegetation of the seed, and a good stand. The same mode of practice as recommended for timothy, may be practiced on orchard grass. Not less than one and a half bushels of orchard grass seed should be sown to the acre, and with this about three pints of clover seed, but the clover seed, being heavy, should be cast alone. The best method to secure a uniform distribution of the seed, is first to mark the ground off in suitable widths for a cast of light seed and then sow one-half of the quantity of orchard grass seed one way and then cross it with the other. The orchard grass seed may then be covered with a very light, fine brush, and the clover seed sown afterwards to be covered with the first rain.

Orchard grass seed should be sown as early in the Spring as the ground is in working order. An early start often insures the future success of the crop.

CLOVER.

In sowing clover seed some few farmers, who are always ahead of their business, practice sowing it upon their Winter grain early in the season, and prefer to cast the seed upon a light snow in the latter part of February or in March. We prefer to wait until seasonable weather opens, as early in March as possible, and then run a fine, light, iron harrow over the growing grain, and immediately sow the clover seed upon the fresh, broken soil. The harrowing of the wheat is equal to a good dressing of any Summer growing crop and gives it a vigorous start. No injury need be apprehended if done with a suitable harrow, when the ground is in a good working condition, but a considerable increase in the crop may be expected.

Much loss is annually sustained by farmers in delaying the sowing of clover seed. It is often put in so late, that the largest portion of it is killed out by the hot, Spring sun. Clover should always be sown in time to give it the earliest possible start, that it may become well rooted before the grain, whether wheat or oats, gets so far advanced as to overshadow the young clover and kill it.

LARGE AND SMALL POTATOES FOR SEED.

Perhaps in no one department of farming have there been more experimeuts made, than in planting large and small potatoes, in order to test their comparative value, and still, the question is unsettled. In many instances these experiments have shown that the largest crops have been produced from large, or medium size potatoes cut in two pieces. Next to these, medium size potatoes, planted whole, gave the greatest yield, while the small potatoes gave a still less number of bushels, and of smaller size tubers. Numerous others have tried similar experiments, and have stated that small potatoes, afforded as heavy crops as the larger ones planted in any form.

We think it is not a difficult matter to explain this discrepancy in these results. In the true potato meridian, no doubt small seed will give more nearly equal results compared with large tubers than they will in the climate of Kentucky or Missouri, which is not so well adapted to the perfect development of these esculents. A small potato contains as many eyes as a large one of the same variety. The eyes in the small potato are small, and the plants or shoots from them are naturally and necessarily smaller and weaker than those which start from a large, fully developed tuber. In the natural climate of the potato, which is cool, the plants come forward slowly, and require nearly the whole of the season in which to mature; hence the plants from these small potatoes, after they take root and become established so as to find sustenance in the soil, and no longer depend on a supply from the parent tuber, have time to come forward gradually and form large and substantial plants before the time for the blossoms to appear and for the fruit to set. But, in our warmer climate, from the ordinary time of planting, the eyes immediately start and the plants are forced prematurely into the formation of tubers, and just at the time the sets begin to put forth, the heat of summer sets in, and the whole growth is accomplished in a few days, and before the stems or vines have attained half size; whereas the vines from full grown roots posess greater size, strength, and vigor, and are better prepared for a speedy growth and maturity. So that the unvarying law of nature, that like begets like, is more surely applicable to potatoes in our climate than in climates more favorable to this crop. In a favorable season a crop of potatoes from small seed may turn out well; but to continue to cultivate, for a number of years, from the same seed, and always selecting the small potatoes, the crop will soon dwindle so as no longer to pay for the labor of cultivation. In any event we think that it will be found cheaper to pay the price of large potatoes for seed in preference to planting small ones, though they cost nothing, and this conclusion is the result of repeated trials.

OATS---HOW MUCH SEED TO THE ACRE.

The quantity of seed oats sown to the acre by farmers of different countries, and of the same country differs materially. In the West, the usual quantity of seed is about five pecks to the acre. Whether any accurately conducted experiments have been made to determine whether this, or a larger quantity of seed, will produce the heaviest crops, we do not know.—It is probable, however, that from the character of our soil, and more particularly the climate, a less quantity of seed will suffice with us, than in a colder climate better adapted to this grain. With us oats come forward rapidly after they have once got started, and a much larger proportion of straw, compared with the grain, on good land, is produced, than is grown

in a more northern climate. But, to test the matter closely, some well-directed experiments are important.

The Massachusetts Board of Agriculture, at the State Farm, at Westborough, have made an experiment of this kind upon five acres of land, all prepared alike. Four received 100 pounds of plaster to the acre and the fifth none. Various quantities of seed were sown, April 27th and 28th. The crop was harvested July 28th, and when threshed, the following results appeared.

No. 1, sowed with	5	bush.,	yielded	42	bushels.	
" 2, "	"	4	"	"	35 1-2	"
" 3, "	"	3	"	"	40	"
" 4, "	"	2	"	"	26 1-2	"

The acre not plastered yielded 20 1-2 bushels, but the quantity of seed to this acre is not stated. The grain on all the lots weighed about twenty-eight pounds to the bushel, except lot No. 1, on which both grain and straw were lightest. Showing that three bushels of seed on land of good quality, in that climate, gives the most profitable return.

It is probable that if an experiment was made on good land, in our climate, it would be found that too little seed is generally sown to the acre to insure the greatest product.

READING AND UNREADING FARMERS.

There is a large class of farmers who do not appreciate the advantages of intellectual culture in its relation to their profession, who do not seem to realize how much mind has to do with farming. They count muscle, bone, sinew, as the grand outfit for a farmer. If he is large enough and strong enough, he will do for the farm, whether he has brains or not.

Now from all such views we beg leave to dissent. Much as we value bone and muscle, we prize *brain* more. Much as strength is needed in the farmer, *mind* is needed more. Valuable as are the bodily forces, mental forces are still more so. The body is but the tool, the mind is the hand that works it. Mind is as all-important with the farmer as with the statesman, the poet or divine. Indeed, nowhere is mind more omnipotent than in the domain of agriculture. Give the farmer mind enough and he will make the "desert blossom as the rose," and the very rocks yield him harvests. The barren country becomes fruitful under the tillage of intelligent farmers, while the richest soil wastes its energies under the hand of ignorance, however strong it may be. Mind is the farmer's might.

As everywhere else, so on the farm, mind is the moving force. Farming is successful and profitable just in proportion to the amount of mental force expended upon it. "The mind is the measure of the man," and farmers must be measured by this standard. Put that down as a fact—fact number one.

2. Fact number two is this: Mind is efficient in proportion to its culture. In every field of mental labor, success depends largely on culture. The best musician is he who cultivates most his power. The best artist is he who gives the best culture to his "faculty divine." The best navigator is he who studies most and with the best judgment the science of the sea. The best engineer is the man who most thoroughly prepares his mind with the requisite readiness and skill for scaling mountains and bridging valleys. The best professional man is he who gives the largest culture to the mind he employs in his profession. Just so is it with the farmer. The better his mind is cultivated in the direction of his calling, the more successful will he be. The more he knows the more he does. To use machinery, to apply science, to evolve principles in his pursuits, requires a cultivated mind. The dolt and ignoramus cannot do it. At a glance anybody can see that mind works successfully just in proportion to its degree of culture.

3. Now we have a third fact for the reader. It is this: Reading is one of the best means of mental enlightenment and cultivation. The reader is the man of knowledge and culture. The artist studies the books of the Masters. The poet reads the written words of fire aglow on the pages of the great ones gone before him. The philosopher reads the productions of all profound thinkers. The professional man reads the books of his profession. To be great, one must read. Reading develops the strength as well as the quality of the mind. Every man must read in the direction of his practice. The farmer does not want to read works on philosophy, poetry or music, so much as on farming. Farming is his business, his profession. In it he must live and rise and shine, if he shines at all. He should have and read a farmer's library. Books and papers on farming should be his study. He should study it and practice it as a science. So will he cultivate his mind; so will he give a wondrous power to his hand; so will his fields whiten with an abundant harvest; his flocks multiply and improve; his home beautify; his wife smile; his children grow up to gladden his heart and improve the world, and honors gather thick and fast on his intelligent brow.

OATS AND PEACHES.

J. S. C., having planted a young peach orchard enquires, Whether sowing oats on the same ground will prove injurious to the trees?

For the twenty-fifth time we will state that neither a peach orchard nor any other orchard should be encumbered with any other crop that will prevent a thorough cultivation of the trees through the summer. J. S. C., if he is an intelligent farmer, would not approve the practice of his neighbor, should he see him engaged in planting his corn over his wheat field, or his potatoes between his corn rows. This would not be more inconsistent nor injurious to the crops of wheat or corn, than oats would be to the peach trees. While peach and apple trees are young there is no impropriety in planting some low growing crops, such as beans, potatoes and the like, between the rows of trees, at a suitable distance from them; indeed it is best to do so, because these crops will insure the cultivation of the ground, which otherwise might be neglected, and the impression seems to be so deep rooted in the minds of farmers that fruit trees need no cultivation, that unless they are forced to it by the necessity of cultivating some other crop, the trees will be entirely neglected. But oats is about the worst crop that can be grown in an orchard of fruit trees, because it renders general cultivation impossible and causes the soil to become compact and baked and consequently very dry; and, besides this, the oats during their most vigorous period of growth, and when the trees need moisture, they must exhaust from the soil of a single acre and give off into the atmosphere many hogsheads of water daily and thus robbing the trees of the very element necessary for their existence.

Let it be remembered, that an orchard during the first five or six years after planting requires as thorough cultivation as any other crop.

[For the Valey Farmer.]

CURE FOR WARTS.

Eds. Valley Farmer:—As farmers sometimes have warts, they will not object to see a certain cure in a farm journal.

Some months since my hands were literally covered with warts. I had tried near a dozen recommended cures, none of which, however, had any good effect until I procured some muriatic acid. A few applications to the top of the wart with a knitting needle or broom-corn fiber, entirely removed them in a few days without soreness or pain. I have since tried it on others with like good effect.

Thos. Wood.

Pennington, Pa.

We take great pleasure in laying before our readers the following able memorial for the establishment of an Agricultural College in Missouri. Mr. W. L. Irvine deserves great praise for his labors in behalf of such an Institution, and, although he has had many friends to aid him in his efforts, yet we believe we are to him indebted, for the present movement in behalf of an agricultural college in the North Western District of this State. We should be glad to see an Agricultural College founded in each of the Districts of the State; but at first, we presume, a central location will be selected, and, then, perhaps other Institutions may be established in other parts of the State.

The Agriculturists of the country are awakening to the importance of these Institutions, and it is about time that our politicians were, too, or they may find, when too late, that by neglecting the wishes and interests of the people, they have forever placed themselves in the private ranks of life, and the tempting offices will be filled by those better deserving them.

MEMORIAL.

FROM THE CITIZENS OF St. JOSEPH FOR THE ESTABLISHMENT OF AN AGRICULTURAL COLLEGE IN THIS STATE.

To the Honorable the Senate and the House of Representatvies of the State of Missouri:

The undersigned, a Committee appointed at a meeting of the friends of agriculture, held in the city of St. Joseph on Wednesday, Sept. 22d. of the past year, to memorialize the Legislature on behalf of the establishment of an Agricultural College, would respectfully present to your honorable bodies the importance of the proposed institution to the advancement of the interests of the State.

It has long been the just complaint of agriculturists, that the educational wants of their special vocation are left unprovided for, and that while in other departments of human labor (such as those of law and medicine,) all necessary facilities are offered for preparation and instruction, adequate to the requirements of those professions, agriculture is suffered for want of these facilities, to remain as a mere art—its processes regulated by tradition and custom—and those who pursue it, unable to avail themselves of improvements which science and enlarged experience are ready to afford.

It is true that universities, colleges, and various other educational institutions are founded, and deservedly fostered by the State, as being indispensable to the general education of its citizens; but none of these institutions furnish or propose to furnish, to the farmers, the instruction specially required in their pursuits. Indeed, they have to regret that even the library and scientific education imparted in our higher seminaries of learning, tends rather to discredit the pursuit of agriculture, and to lead the

youth of our country to disparage it as inferior to what are termed the "learned professions," and to suppose that if they were to engage in it after receiving a college education, their classical and scientific attainments would be virtually thrown away. It is supposed to be an avocation suited to the uneducated and the rude, one in which no scope is afforded for the exercise of talent, or scientific or literary acquirements, and which furnishes no opportunity for honorable distinction; hence, the farmer who sends his sons to college, too often finds them return home unfitted for his cherished calling, by the very education which he had hoped would enable them to elevate and adorn it.

Your memorialists are fully convinced that agriculture remains thus depressed, and that it fails to make those advances so observable in other departmenis of human pursuit, in consequence of the want of institutions in which it can be systematically taught as a science.—It is by means of agricultural schools and colleges alone, that it can be rescued from its inferior position, and be made to assume its proper dignity as a calling. It is by the application of true scientific principles in its processes, and of a cultivated and enlightened judgment in its entire economy, that it can alone be made the means of developing and maintaining the fertility of our soil and of increasing and extending those important products which constitute the true basis of the prosperity of the commonwealth. It is by diffusing among the farming community a correct knowledge of sciences, which are now the handmaids of agriculture, and of those important discoveries which are constantly made by their means, that our agriculture can alone be made to flourish, and to afford to talent, learning and application the means of honorable distinction. The establishment of agricultural colleges for these important purposes of general and public interest, while it is without the scope and beyond the means of individual effort, seems to your memorialist to fall within the legitimate sphere of those to whom the people have committed the task of devising and ordering all measures necessary for the development of the resources of our State, and for its advancement in the means of social progress.

In Europe such institutions have long been in successful and beneficial operation, and it is in our power to enjoy the benefits of the enlarged experience and wisdom of others, and to transfer at once to our noble State those improved plans of instruction in agriculture which are found so admirably adapted to promote its interests. Various movements and recommendations have been made by the public authorities of several States of our Union, in relation to such schools, and in some of the States colleges have been established and handsomely endowed, and they are receiving the benefits necessarily flowing from them. The undersigned can see no good reason why Missouri should not at once secure to herself the advantages they afford, and in the exercise of a prudent foresight and an enlightened liberality, provide for the most important interest of the State those aids which are essential to its prosperity.

It is believed that the introduction of a proper system of agricultural education will tend not only to the augmentation of material wealth, to an increase of the value of property, and to the preservation of our lands from exhaustion by imprudent husbandry, but also to foster the higher interests of society. When it is considered that agriculturists compose by far the most numerous class of our citizens, and furnish much the largest portion of the means necessary to the support of our institutions; when it is remembered that from their position as dwellers on broad fields, and rulers of estates, dependent upon God alone, and dispensing to others the bounties of a beneficient Providence, they constitute the chief basis of the moral strength of the community, and the main pillar of free republican Government, it may in some degree be appreciated how vast and general in its reflex influence upon all classes would be the beneficial effect of a proper provision for their general improvement in mind and practice, and for the elevation of their pursuit from the low rank of a rude and traditional art, to the dignity of an important and progressive science.

Your memorialists would therefore respectfully urge upon your honorable bodies the importance of at once establishing and properly endowing an agricultural college in this, the north-west agricultural district of the State of Missouri, in which shall be taught all the branches necessary to the successful application of science to agriculture. They would propose that the institution be constructed upon the most approved mode, so as to embrace all the advantages which have been attained by the experience and wisdom of those who have conducted such institutions at home or abroad.—The details of its plan, and the method of its endowment, they would leave to the mature consideration of your honorable bodies, hoping that you will carefully examine the subject in its important bearings upon the progress and prosperity of our State, and trusting that you will feel the pressing necessity of having at least one such college established within our State, in which our sons may be educated in their profession, and be enabled to pursue it with honor and profit to themselves and to the State.

All of which is most respectfully submmitted.

W. L. IRVINE, and others.

(For the Valley Farmer.)

FALL BARLEY.

EDITORS VALLEY FARMER.—In compliance with your suggestions, I will give you the result of "my experiment," (as it is called here, for I am the first grower in Jackson county) with *Fall Barley*. I broke, very deep, 10 acres oat stubble, and put in, with Pennock's drill, two bushels to the acre, finishing the 15th of September, 1857. In June, '58, I cut it with cradles, and as cradlers term it, it was badly "slobbered." Hands being scarce, I had no rakers, and the binders, afraid of the beards, used their feet in lieu of their hands. Much

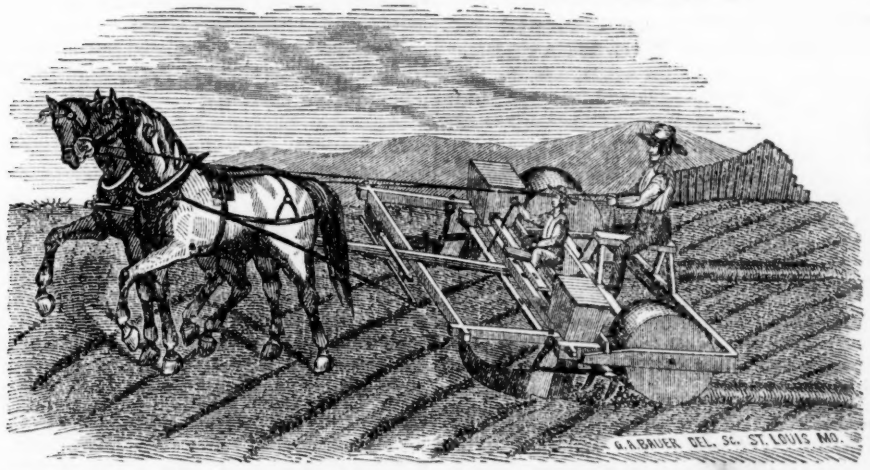
was left on the ground; I had no rake and before I could make one, rain set in, lasting several days, causing the loss of all the loose straw and barley. Had to shock it in the field.—Threshed in July, and some weeks afterwards, fanned out and put into my granary, 350 bushels of clean grain—35 bushels per acre, after a loss of at least three-eights by bad management, or rather the want of proper implements. This defect I shall endeavor to remedy this year. So well pleased am I with Fall Barley, and satisfied of the adaptation of our soil to the growth and prolific yield of it, I put in, last Fall, 30 acres; and should the yield even equal, per acre after my losses, last year's crop, I shall put in not less than 50 acres next Fall.—Only three of my neighbors *risked* "trying a little," last Fall, preferring to see the result of my second crop. Should it be good, many in this section will commence raising barley *to the exclusion of hemp*, which latter, for the two years past, has been here, rather an unprofitable crop.

Last year I "experimented" with two bushels "Hungarian Grass seed," at least bought of *a Seed store* to make sure of a *pure article*, but alas! alas! it proved to be *equal parts* of "common Millet and Fox tail." I would have preferred paying $9.75, the cost of the seed, to have kept my *imported crop* off of my premises.

W. S. WRIGHT.

Lafayette Co., Mo.

VANDIVER'S MISSOURI CORN PLANTER.



The above engraving is a representation of "Vandiver's Missouri Corn Planter," Patented Nov. 30th, 1858. From a carful examination of the model we are inclined to believe that it will prove to be among the best corn planters in use. Price $40. See Advertisement.

The following article was received last summer and mislaid. It is not too late, however, to set some of our readers to making observations in regard to the weather.

[For the Valley Farmer.]

FORETELLING THE STATE OF THE WEATHER.

"Misfortunes never come single." The hard times seem likely to be greatly aggravated by bad weather and storms, which seriously threaten our crops. The thought arises, Why might not this state of things have been foreseen and measurably prepared for? How curious as well as wrong and humiliating, that after living in the world as men have for thousands of years, and learning about almost everything else, we are yet in total darkness as to the character of the forthcoming seasons—governed as they are, by laws immutable as those which control the movements of the planets; with historic records and scientific observations at command, what walking clods we are, as to the impending weather! What immortality is there yet in store for some storm-king who shall unlock this mighty weather-vault and hand over the key to his delighted fellows.

If there be one well ascertained fact in regard to the weather, why not make that a basis for other scientific calculations and deductions? For instance, it has been stated that there is every year about the same annual mean of temperature. Now if this be the fact, how easy to foretell the general temperature of the last three or six months in each year from that of the preceding months. Will not the savans please figure up and tell us what we may expect during the last half of this year? It is also said that one extreme follows another.—How natural then to infer that after such a series of dry seasons as we have had within the past five years, we should now get terrible rains, after which drouths again—against both of

which extremes, farmers should provide by deep tillage and thorough drainage. Without doubt, the weather here at the West, at least in the matter of wet and dry, has its cycles or periods—a very wet season occurring every six or seven years. Really now ought not this wet season to have been expected. As navigators know the tides of ocean, why may not we poor water-logged landsmen know something of the great air-tides that give us fair or foul weather?

How very stupid that men of thought and science go beside themselves in studying the hidden mysteries of another world when there is so much of the highest importance all about us, pertaining to every-day life, yet undiscovered.

F. K. Phoenix.

Bloomington, Ill., July, 1858.

[Written for the Valley Farmer.]

RULING WINDS AND THEIR INFLUENCE ON THE WEATHER.

Currents of air, called winds, are the most sudden and powerful agents to influence and to make what we call weather. The winds are produced by the efforts of nature to equalize the temperature. Cold stratas of air, being heavier and denser, roll on nearest to the ground, towards warmer, lighter stratas, which swim on top of the colder, partaking of a rotary motion. For instance, the cold stratas from the north, moving south, and the lighter from thence, swimming over them, northwardly, all the time, however, exchanging and mixing, until the temperature of the counter currents have become uniform, when tranquillity takes place and exists till other currents set in to disturb it again.

Winds are not only the agents for equalizing temperature, but they are the main carriers and distributors of vapor, rain and snow, to all parts of the globe. Ruling winds are the principal factors of the weather. They partake of the temperature, moisture and dryness of the soil and bodies of water over which they sweep. A forest covered country breaks or retards the wind, charges it with vapor, cools it when hot, and moderates it when cold.

The two great fountains for watering the North American continent, east of the Rocky mountains, are the Atlantic and the Gulf of Mexico. For that reason our east and south winds, if they continue for two or three days, bring always vapor or rain and mild weather. Our great source of cold, however, lies in the Rocky mountains, on account of their great altitude. Here, also, lies the cause of the parching dryness, under which curse we so often suffer. Our west and north-west winds, roll down from the snow covered regions, and high table lands, over arid plains, across the Mississippi valley, to the Atlantic coast, freezing and parching all before them.

Where is there a subject of such vast magnitude in the United States as the sparing, rearing and fostering, of a living forest-barrier, against this blasting influence from those mountains!! Our northern territory being low, and moderately watered, the winds from that direction are neither dry nor very cold. To illustrate the influence of ruling winds upon our seasons, the Winter of 1855-56, and the Summer following, may be cited, when the ruling winds for near eight months, were west and north west. Fresh in our memory is the terrible Winter, and the distressingly dry Summer that followed; also the past year of 1858, when the ruling winds were south and east, watering more than abundantly half the North American continent. Exceptions from the influence of the ruling winds form storms, which often go contrary to them, as electricity is the main agent for ruling their motions.

The January and February numbers of the *Valley Farmer* contain a most excellent treatise on "The Destruction of Forests and its Influence upon Climate and Agriculture," which every man in the nation should read, study and reflect upon. This article, alone, is worth far more than the whole year's subscription to that valuable journal—a trifle of but one dollar!—One hundred thousand copies of it, distributed through the West, would add millions of dollars to the wealth of this commonwealth.

Emil Mallinckrodt.

St. Louis Co., Mo., Feb. 15th, 1859.

(For the Valley Farmer.)

SPRING WHEAT.

Editors Valley Farmer.—I have been requested several times to give my views relative to raising and managing Spring Wheat. I intended last Fall to have done so, before the season of Fall plowing was past, but it slipped my memory. I have raised Spring wheat for many years, and after selecting from various kinds, I have found the Rio Gradne, (*bearded*) Canada Club and Fife, smooth headed, the best for my purpose. I venture the assertion, that a wet season or a dry one, if properly managed, at the proper time, half a crop will always be obtained.

I have lived a half century, and I disremember any season so wet as the past has been, in North West Missouri. Myself and two sons had 32 acres, and threshed 534 bushels, or between 16 and 17 bushels to the acre. We have the three kinds, and each raises one kind, so as to keep each kind separate. Here, you see, we raised half a crop in one of the wettest seasons I ever experienced. In a good season, in Wisconsin, I raised as high as 39 bushels to the acre, and am satisfied the same can be done in this Platte purchase, in a good season, properly managed.

While we raised of these kinds, this season, the amount above mentioned, almost every other kind was an entire failure. Scores of acres never were cut at all. Our Canada Club, this year, rusted some, but the Rio Grande and Fife, had not a speck of rust. Straw was bright, cut green, and our stock eat it as eagerly as hay.

I prepare my ground in the fall, by plowing as deep as possible—8 to 12 inches—the deeper the better, and leave it to winter in as rough a state as possible, so the frost can penetrate every

part of it. I sow the seed in the Spring, at the earliest time possible, in Feb., if the ground is dry enough and in good order. If the ground is too rough, or in holes, as frequently is the case, I run a harrow over it, to make the surface perfectly even, and, if lumpy, I run a roller over it. I sow on the smooth surface 1 1-2 bushels to the acre. I then harrow two or three times, no more, however, than to cover the seed good. I do this with a harrow, the wood work made with scantling, 3 by 3, with the edges all shaved off so as to make the wood work as light as possible. This harrow is a double one, with hinges in the middle, has six beams, three in each half, with five teeth in each beam, making 30 in all, made of three-quarter inch bar iron. Two light horses will haul this harrow over 15 acres in a day. The teeth are put 11 inches apart, every way, so that by hitching the team to the second beam, every tooth does its own execution, no two following in the same track. This puts the seed in about one and a half or two inches—deep enough.

I have seen wheat put in with a large harrow, drawn by three yoke of oxen; with a shovel plow, and put in on corn ground; plowed with a shovel plow and the seed brushed in with the top of a scrub oak. When harvest came on I saw everything but the wheat and then heard the remark, Cannot raise wheat in Missouri.—Were I to farm in such a manner I would not raise any, certain—should not expect to.

TIME OF CUTTING WHEAT.

Hundreds of bushels of wheat were lost the past season, by not cutting it in time. In a wet season like the past, Spring wheat wants watching daily. When the head of the wheat is saturated with rair, and the scorching sun pouring down upon it, three days will ruin it if not watched and cut down. It wants cutting the very day after it is out of the milk. Go into the field, squeeze the kernels between your fingers, and if the milk is not visible, cut it down immediately. In a good season, it is well to let it stand until it is in a doughey state, such that you can but just squeeze sides together.—All wheat wants cutting in the doughey state.

D. BONHAM.

Andrew Co., Mo., Jan. 15, 1859.

[For the Valley Farmer.]

SPROUTING SWEET POTATO PLANTS.

Many persons experience some difficulty in successfully sprouting plants of the sweet potato; others do not know how to set about it. For all such the following hints are offered.

The sprouts or plants have to be raised in a hot bed, prepared for that purpose, which, for this latitude, should be ready to receive the sets, or old potatoes, about the first week in April, so as to have the plants ready to set out after the first week in May, and from that time up to the first of June.

At this late season, a moderate hot-bed only is required, that is, the manure need not be so deep or in so large a quantity, as for beds made earlier in the season. But the manure should be well tempered and prepared, by previous mixing and turning over, so that all rank steam should have passed off, and the whole mass be in a state to give off a uniform, steady, moderately brisk heat, when made up into a bed.

Our advice is to make the bed entirely above ground, so as to have the regulation of the heat more under the control of the operator. Proceed to make the bed, layer upon layer, evenly, just as a haystack would be built, beating it down firmly with the fork, as you proceed, until a height of 18 inches or 2 feet is attained.

Then the box or frame, and the lights on them may be set on, and left a day or two, to see that the heat rises properly, and the bed is in a fit condition to receive the mould, which should be light, rich and moderately dry, and may be put on to the depth of 3 inches, or 6 inches may be put in to get warmed up, one-half to be taken off and placed over the sets when planted.

Select sound, healthy tubers, free from rot, or if any part is rotten, it should be cut out.—Our practice is to halve the potato lengthwise and place the cut face thus made down, side by side, nearly as thick as they will lie without touching each other. The sprouts that would start out from the lower side of the potato, cannot be easily got at without displacing the tubers, when put in whole. Whereas, by cutting as recommended, the sprouts may be taken off, by placing the thumb on the tuber and pressing it down, and it will be left undisturbed to produce its succession. One bushel of potatoes will produce sets enough to plant nearly an acre.

As regard the varieties, this vegetable cannot boast so long a list as some others of the vegetable tribe, but the Nansemond or Lebanon yellow is the best in cultivation for this section of country, or North of 38°, being relatively hardy, of good size, productive, and of exquisite flavor.

CAREW SANDERS.

(For the Valley Farmer.)

TO AVOID SCARCITY AND HARD TIMES.

EDITORS VALLEY FARMER:—How to avoid hard times and scarcity of provisions is one of the difficult questions now requiring solution. He will be both a philosopher and philanthropist, who will give the world a practical solution. Napoleon of France, the last man from whom we should expect such a benefit, is really seeking thus to be a benefactor. These terrible times are awakening reflections on the probability of avoiding them in future. In Europe, more than here, are occasional seasons of scarcity. From statistics of the past it is determined that about one-tenth of the years are seasons of scarcity; where many people suffer for want of bread, and pecuniary trouble comes along with it. Therefore, it is argued, if from the nine years of plenty there be saved from consumption an amount equivalent to one years consumption, there will be created a supply equal to the necessities of a scarce year. Even

should there be one year in ten of a total fail ure of every crop, this would prevent starvation and trouble. But a year of total failure of every crop has never been known; so that a preservation of grain enough for one year's use, will guard against several scarce years, should they come together. This preservation can be made in granaries made for the purpose. It can be done by the government, or by the people. In France it is proposed to be done by the government, by giving certain special privileges to the bakers by the use of which they will be enabled and be compelled to keep in preservation or reserve a certain amount of grain. By so doing bread will be raised in value a little during years of plenty, and kept about the same rate during years of scarcity. The plan is designed to act as a regulator on the prices of breadstuffs.

Now, if the people of our country would adopt such a plan, and every farmer all over the country would hold in reserve, every year, a tenth of one year's consumption, or a tenth of what he should raise, so that in ten years he would have on hand a year's harvest, he would thereby create a home bank of breadstuffs, which would make him independent of hard times and scarce years. Instead of seeking to live so fast, if they would seek to live sure, it would in the long run be safer and better. If the plan were generally adopted, it would raise the price of breadstuffs in years of plenty and keep it from being exorbitant in times of scarcity. The farmers would thus hold in their hands the balance of power, and would always in a measure control the markets, instead of being controlled by speculators and consumers. To avoid keeping grain many years so as to injure its quality, the old would always be disposed of at the coming in of a new harvest. We have known many judicious farmers who have acted partially on this plan, by always keeping a good stock of provisions on hand. They are seldom effected much by hard times. A little of this judicious forethought would wholly prevent the evils of scarcity and do much to ameliorate the severity of money panics. Yours, &c.,

AGRICOLA.

EARLIEST AND BEST MODE OF RAISING TOBACCO PLANTS.

As tobacco is one of the staples of Kentucky, it is very important that its proper cultivation should be thoroughly understood by our planters. To raise tobacco plants early and successfully is a great secret. People often fail to get early plants because they do not take sufficient pains to put in the tobacco seed, nor do they make their beds in the right location, and put them in a suitable condition for the rapid growth of the plant. A tobacco seed seems to be slow to start, unless you resort to the most ingenious means to force it to swell and sprout. An intelligent correspondent, writing for the *Genesee Farmer*, says that the earliest and perhaps the best mode of raising tobacco plants is as follows:

Prepare a bed, say 40 feet long and 10 feet wide, in a warm place where the sun will help enliven the soil; pulverize the ground thoroughly and deeply; in the meantime work in fine manure, free from foul seeds, so that weeds will not come up among the plants; rake down the surface of the bed smoothly and nicely, and after you have thus perfected a kind of hot-bed, not at all expensive to make, and when you are satisfied that the ground is warm, or in a satisfactory state to receive the seed, sow it on the bed at the rate of three ounces for a plat of ground of the above size. But, before sowing the seed, prepare it in the following manner: Put three or four ounces in a tightly made woolen bag; moisten it with warmish water, and then hang it up behind the stove in a warm location. It will soon begin to show signs of sprouting (it should be watched); and having found out that it is about to germinate, by its swollen condition, and other indications, sow it on your bed in connection with two or three quarts of dry sand or Indian meal. The surface of the bed should be pressed down with a heavy plank before sowing the seed, and never rake in tobacco seed; but after you have distributed it evenly over your plat of ground, either roll it in with a hundred pound roller, made for the purpose, or tread it in with your feet. Some press it in with a plank. About the 15th or 20th of April is the time you should sow your seed, if the ground is passably warm. Some sow earlier and some sow later.

Now for the glass sash-work over the bed—the sash made long and not too wide. Some do and some do not use them. They should be placed over the bed, and the sun soon produces its good effects through the glass upon the surface of the soil, warming it into activity, and thus starting the little plants into active vegetable life! The glass also protects the plants from frost; but mind you, when the sun shines warmly, be careful that, by reason of its effects through the glass, it does not burn up your plants. After the plants have got up reasonably large—as large as a dime for instance—the glass fixtures may be removed; and then you can dash on your liquid manure evenly with a tin watering sprinkler. You will be surprised to see the rapid growth of the plants, raised and managed in the above manner.

The bed should be thoroughly weeded, and judgment should be used in selecting a plat of groun l as free as possible from foul seeds.—Sandy soil is, on the whole, the best for the plants. Fine horse or hog manure is the best to incorporate with the soil of the bed.

In a few days after the plants get a start, they will be fit to set in the field in rows three feet and a half apart one way, and 2 ft the other.

I believe I am right in saying that to be a successful tobacco raiser is also to be a successful plant raiser. Raising tobacco is a trade; and in our Northern States, where a good deal of it is raised just now, the plants should be set early, and thus you will secure your plants early, and no fear need be apprehended that it will not cure.

Hereabout a large quantity of tobacco is raised annually. Much patience is required to raise it, as in the cultivation of all other plants.

Stock Raising Department.

WOOL GROWING.

According to the several reports of the Township Assessors to the office of the Auditor of the State, the number of sheep in the State of Ohio, is 3,308,808. The increase and decrease of the various counties are given from the preceding returns for the year 1857, showing that there has been a falling off in the numbers in forty-two counties, and an increase in forty-six counties; leaving an aggregate increase in 1858 over the preceding year of 42,100 head. The product of wool for the last year is estimated at three pounds per head—equal to 9,826,400 lbs. with an increase over last year of 10 per cent. or about 1,000,000 pounds of wool.

Wool growing is becoming an important branch of farming in California. At this early period of its settlement, according to the San Francisco *Bulletin*, the crop in 1858, reached a million and a quarter of pounds, and some qualities rival the finest Australian fleeces, which are so highly prized in England. While the gold of California will serve to call together the hardy sons from every other quarter of the world, the agricultural resources of the State, including wool growing, will result in vastly greater benefit to mankind than the gold itself. While the one is of comparatively little practical value to the world affording employment to but a small number, the others give employment to millions in the form of various manufactures, not only for home consumption, but will at no distant period furnish a large supply for export.

If Ohio and other States, where the price of land is comparatively high, can make wool growing profitable, there are millions of acres in other States better adapted to sheep that may be bought at a very cheap rate, and afford a profitable return both in wool and mutton.—Beef has become a dear article of food in all the large towns and cities, and mutton might be substituted to a very considerable extent, which is both nutritious and healthful, as an article of food.

While the national treasury falls many millions short of meeting the current expenses of government, would it not be a wise act of legislation to extend liberal protection to the wool growing interests of our country as well as that of iron? With such a wide extent of unoccupied territory in the United States, the production of wool ought to be made equal to the demand for our own manufactures, especially while so large a supply of woolen goods reach us—the growth and manufacture of other nations.

[Written for the Valley Farmer.]

BOTS IN HORSES.

How prevalent the idea that bots cause the death of horses. The opinion is not only entertained by those who have not a favorable opportunity to inform themselves, but is also entertained by those who are surrounded with the means of becoming better informed. We assume that bots never killed a horse; that they have neither the disposition or power to injure the animal, and in this we are sustained by the best veterinary authorities. The great destruction of horses from internal diseases, unknown to the owner, and falsely attributed to bots, calls for a more enlightened and thorough knowledge of the subject. We are aware that when we assume that bots never kill horses, we come in conflict with at least ninety-five per cent of the horse owners in this section of country, a majority of whom have never investigated the matter, but taken the "tradition of their fathers," for the foundation of their belief.—Youatt says, "the bots cannot, while they inhabit the stomach of the horse, give the animal any pain, for they have fastened on the cuticular and insensible coat;" "they cannot be removed by medicine, because they are not in that part of the stomach to which medicine is usually conveyed—and if they were, their mouths are too deeply buried in the mucus for any medicine that can be safely administered to affect them; and last of all they detach themselves and come away."

Hardly a newspaper can be found without it contains a "certain cure for bots," and the poor dumb brute is charged with this awful complaint, if from colic or any other unknown cause he happens to look piteously at his aching abdomen. The charge would not be serious if it was not followed up with drugs sufficient to kill a well horse. Unfortunately we have in this country but few who lay any claim to a veterinary education, consequently everybody turns horse doctor, and in nine cases out of ten do more harm than good. The horse dies, and in course of time an examination is made, when it is found that his stomach had been destroyed by bots, that they had eaten entirely through it; this they firmly believe; the bots are there, the holes are there, and of course the bots made the holes. Such, however, is not the case.—Persons acquainted with post mortem examina-

tions are aware that *very* soon after death, the gastric juice of the stomach, which is more like muriatic acid than any other known compound, commences its work on the stomach, and in a short time will destroy it altogether, and to this acid should be charged the sin of making holes in the stomach of the horse.

This communication is not intended for the enlightenment of your readers, but with the view of calling their attention to a subject which has been too much neglected. My impression is that more horses have been killed by the efforts of their owners to remove the bots from their stomachs, than have died from any other natural disease.

If in our view of the subject we are mistaken, we are anxious to be corrected. It is neither our desire or interest to hold to an error. The whole community, especially those engaged in agricultural pursuits, are interested in the life of the most noble of all animals, and the cause of humanity demands at our hands the use of such means as may be best calculated to render him most useful as well as comfortable. G. L.

NEW ALBANY, Ind.

ON "BIG HEAD."

CLINICAL LECTURE ON "BIG HEAD," BY GEORGE H. DADD, V. S., LECTURER ON VETERINARY SCIENCE, AT THE *Boston Veterinary School.*

GENTLEMEN :—The subject which I now propose to call your attention to, is one of great importance, from the fact that this disease, familiarly known as "*big head,*" prevails to an alarming extent in the south western states, where some of you intend to locate, and very little is known of either its causes, or pathology.

As the disease generally originates in and about the osseous tissues of the head, it is highly necessary that we understand the mechanism of bones, hence I shall make a few remarks calculated to enlighten you on this subject.

Bones have many things in common with the soft tissues and organs—for example, arteries, veins, nerves, and connecting cellular web.—Their structure in the embryotic state, is vascular, yielding, and gelatinous. They have a fibrous investment externally termed periosteum which is well supplied with arteries, veins, nerves, and absorbents, and by means of this fibrous tunic, vessels are distributed to the bones and their internal surfaces, and here also we find a fibrous membrane, similar to the one on the external surface, only more delicately organized. A portion of the cavity found in the shaft bones, is occupied by a considerable amount of adipose matter, known as marrow, enclosed in lumintated cells. Bones consist of two constituents—animal basis and calcareous matter ; in the healthy adult, the proportions are as follows :—Animal matter, 33 1-3 per cent. ; calcareous, 66 2-3 ⋈ 100.

Bones which contain certain distinct central cavities, as the antrum of the jaw, for example, are not connected in their centres, by *osseous*, but by cartilagenous unions ; so that they expand, fall apart or burst, when the cartilagenous *braces* are decomposed.

The growth of bones, like that of shell, is effected by the addition of new tissue, to that already formed.

The ultimate constituent of bones are gelatine, animal matter, carbonate and phosphate of lime, fluate of lime, phosphates of soda and magnesia ; the solidtly of bones therefore depends on a due proportion of the same. Should there be a lack of phosphates the bones lose their cohesive firmness, and become soft, this constitutes the disease known as *mollities ossium.* The disease known as *caries* is a pathological condition analagous to ulceration, occurring in the soft parts.

We are now prepared to examine and form an opinion on the character of the disease now under consideration. The specimen of Big Head which I now offer for your examinatinn was forwarded to me by my friend Dr. Gordon of Georgetown, Ohio ; you will perceive that the walls of both the upper and lower jaw have all undergone dilitation in lateral directions, so that the width of the same is about three times the ordinary size, and on inspecting the interior you will see that the cartilagenous connection or braces, are all decomposed ; hence the dilitation.

This dilitation has, no doubt, partly been accomplished by the presence of a large quantity of purulent matter, now in adried, spongy condition, which has almost as you perceive, burst the bones apart. The bones, as a whole, appear to have lost their cohesive firmness and vitality, and are bordering on a state known as necrosis. I have removed a portion of one of these bones, which has been macerating for the past twelve hours in a weak solution of muriatic acid, and you see that it can now be rolled up like a piece of paper, showing very conclusively that it is deficient in calcareous matter : had it taken several days to abstract the same, the experiment might not have been so satisfactory ; the animal matter preponderates, and a knowledge of this fact can be used to great advantage

i the treatment of the malady, in its early stage, for it clearly indicates that phosphate of lime must be our chief agent; it should be combined with remedies possessing tonic and stimulating properties; hence I shall recomme e following formula.—

Powdered phosphate of lime, 4 ounces.
" golden seed, 1 ounce.
" sassafras bark 2 ounces.
African ginger, 1 ounce.

Mix. Dose, one ounce daily.

I recommend the *phosphate*, in conjunction with the other agents, because the function of nutrition may be deranged, and the latter agents tend to give tone and energy to the same. It is well known that the maintenance of the functions of animal life are almost entirely dependant on the due performance of the nutritive operations, and therefore the integrity and properties of all the *hard*, as well as soft tissues depend on their regular nutrition by a due supply of perfectly elaborated blood; this cannot be effected unless the functions of circulation, respiration and secretion, be performed with regularity. *Circulation* is necessary to convey a supyly of nutritious fluid. *Respiration* and secretion, separate the blood from its impurities. Therefore I advise you in all cases of this character to endeavor to improve the general health of the animal by such means as I have suggested, and at the same time see that the animal be fed on that kind of food which is calculated to promote the integrity of the organism; and you should advise the use of that kind of food which is rich in phosphates. It is very difficult to define the causes of a disease of this character. It may originate from a peculiar morbid habit, or idyosyncracy, or it may be the sequence of faulty nutrition. When an animal labors under any morbid habit of body, he is in a state far removed from that of health and various parts of the body become affected by the change, and even, should the power of forming good healthy blood remain, the organic force by which the constituents of blood are transformed into osseus structure, must necessarily be enfeebled by the morbid habit, so that the power to produce metamorphoses is necessarily diminished. It is my opinion, and you may judge for yourselves, by inspecting the various specimens now before us, that Big Head usually comences in the fibrous tissues which is found in the internal surface of bones; a very peculiar feature of these fibrous tunics is, that when they once become diseased they run rapidly to purulency, and this accounts for the large amount of purulent matter, now in a dry state, which you see occupies the immense cavities between the walls of both upper and lower jaws. A very distinguished French writer contends, that, "fibrous tissues hardly ever contribute to the formation of pus," this is evidently an error, for you are aware that, when the periosteum—a fibrous tunic—found within the alveolus, and reflected on the fang of a tooth, becomes inflamed, it often suppurates, and in consequence, we are often compelled to remove the tooth. I contend that it is the most common tissue, that excites the flow of those exudations from arterial capillaries, which become converted into pus; hence we often find collections of pus both above and beneath the fibrous fascia, and aponeurosis of muscles; on and beneath the periosteum, and in the vicinity of fibrous tissues in various other parts of the system.

If in the early stage of *Big Head* you can detect, and even have good reason to believe that the cavity within the jaw-bone is the seat of accumulated pus, I would advise you to cut down upon the jaw and make a pendant opening into the same by means of *bone* forceps or trephine; in this way you liberate the imprisoned morbid matter, and have an opportunity to inject the cavity. The injection should consist of pyroligneous acid and sanguinar canadensis, in the following proportions.

Pyroligneous acid, - - - 4 ounces.
Powdered Blood Root, - - 1 ounce.

Throw a portion of this mixture into the interior of the jaw once daily, for a short time, by means of a glass syringe; of course it will be necessary, to improve the general health, by the means just alluded to.

"Big Head," has hitherto been named *osteo sarcoma*, and I also have named it so, but I think *ostitis* would be a more applicable term for it; for *ostitis*, is a disease of inflammatory type, accompanied by synochoid fever, soon followed by suppuration. Whereas *osteo sarcoma* is a slow caries of bone, involving the soft parts elevating the skin in the form of a conical tumor, dischrage from the same ichorous corroding and fœtid. Therefore I contend that the term *ostitis* when applied to a disease, such as you now see before you, gives us a better idea of its character than we have hitherto entertained.

See well to the stock at this season of the year. Feed them well till the grass is high enough to afford them a good bite.

IMPORTANT LEGAL DECISION TO STOCK GROWERS.

A case has recently been decided in Chicago, Ill. before Judge Drummond that established an important precedent to drovers as well as to rail-road companies. The facts are these:—a stock drover residing in Kentucky, shipped at Urbana, Illinois, one hundred head of cattle on the Illinois Central Rail-road for New York, under a contract by which they were to be delivered at Detroit in 30 hours, but instead of reaching that point within the time specified, they were detained on the Michigan Central Railroad at Michigan city, 12 hours; also 12 hours at Marshall. On arriving at Detroit, four of the cattle, worth $400, were dead, and the remainder were depreciated by the loss of flesh to the amount of six dollars a head. Consequently the owner brings action for damages; the facts being proven, the court gave judgment for $1,250.

THE HOLLOW HORN.

"The disease of cattle, known as hollow horn, is causing an annual loss to be estimated by millions of dollars in this State alone. *This disease is spinal, caused by the skin adhering to the bone of the back and preventing circulation*, and may be cured as follows:

"Rub with the hand with as much force and friction as possible the hide of the animal, on the back bone, from the tail to the horns, thereby restoring circulation.

Every animal should be examined and subjected to the process every February and March to prevent this disease."

Thus writes a Tompkins County correspondent to the Frankfort (Ky.) *Yeoman*.

This is undoubtedly the greatest discovery since the days of the plagues of Egypt. The *cause* of this fatal disease, by which the loss to Kentucky alone is estimated at millions of dollars, has been a profound mystery to the wise men through all ages of the world down to the year *Anno Domini* 1859. That there should be no mistaking this matter, we have placed the whole secret of this discovery in italics, and again repeat it:—"*The disease is spinal, caused by the skin adhering to the boues of the back, and preventing circulation.*" Now, the discovery of the *cause* of a disease very naturally suggests a remedy, and as a substitute for the barbarous practice of the dark ages, of boring the horns with a spike gimlet, this learned benefactor suggests *friction on the back bone, from the tail to the horns*, but he fails to extend his remedy far enough; it should also be applied *internally*, as well as along the back; and this may be done in the *natural way*, not even requiring direct manipulation.

As this is the season of the year, when great numbers of cattle will be seen, with the *skin adhering to the back*, we will give a more direct *formula*. But, as an ounce of prevention, is said to be worth a pound of cure, it would be more safe to begin the application about three months previous to the usual time of the breaking out of the disease.

The prescription is as follows:
Comfortable shelter, from Nov. to March,
Pulverized Tea Maize, 4 quarts,
Cut Hay or Straw, 40 to 50 lbs.
Water sufficient.

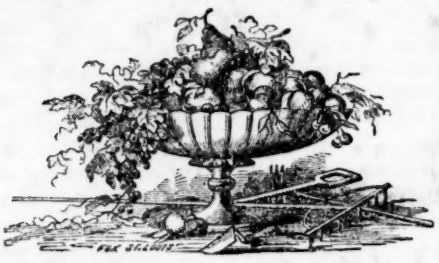
Mix—divide in two equal parts, and administer morning and night for three months, or longer if the case requires.

CAMELS FOR PLANTATION WORK.

It will be remembered that the United States Government has made two importations of camels, to be used as beasts of burden over our great Western plains. This enterprise seems to have proved successful, and the animals every way adapted to the labors they were purchased to perform. These experiments on government account have led to private enterprise in the same line. Mr. J. A. Machado, of Texas, having imported and safely landed ninety-two at Galveston, twelve of these have been shipped to New Orleans, with the view of their introduction to plantation labor, packing cotton bales &c., in Louisiana.

Mr. Machado is ready to prove that for all purposes of labor and draught, one camel is equal to four mules; that he is more docile; that he requires less food, less care, lives to a much greater age than the mule, and besides is a breeding animal, which the mule is not. One of these animals weighs eighteen hundred pounds, and measures eight and a half feet in height. Any of the full grown ones are capable of bearing burdens of fifteen or sixteen hundred pounds; they kneel at the word of command and easily rise with this load upon their backs. Saddles are constructed for them, upon which three or four persons can ride comfortably.

As pack animals across the mountains, and plains, for the transportation of the mails and similar uses, we have no doubt the camel will be found admirably adapted, until the further progress of improvements more in accordance with the spirit of the age are completed, but for plantation use, on land of the character of that of Louisiana, we hardly believe they will be made to supercede the means now employed.



Horticultural Department.

PRUNING APPLE TREES, &c.

We are requested to answer the following questions:

1st. "When is the most proper time to prune apple trees?

2nd. "How high should the main stem be to the first limbs?

3d. "What application is best to prevent rotting where large branches have been cut off."

1st. When trees are transplanted from the nursery to the orchard, they should be pruned, removing the branches so as to lay the foundation for a *clear, open head*, and shortening all of the remaining shoots to three or four buds of the previous season's growth. The object of this cutting back, is to compensate for the loss of roots and fibres occasioned in removal from the nursery, and thus establishing an *equilibrium* between the demand of moisture by the leaves, and the supply from the roots. There is an immense amount of moisture given off from the leaves of a tree, during the day, and when, from mutilation, or partial loss of the roots in digging, this supply is not kept up, the tree lingers and often dies in consequence. After this, our practice is to prune at any time when a branch is discovered to start from an improper place, consistent with the design of the head. If this course is practiced for five or six years, after the trees are set, but little pruning will be necessary, and this will be done when the branches are so small as to be proper at any time. But if an orchard has been neglected, and considerable pruning is thought necessary, it should be done with caution, and the Spring is the best time to do it, so that the wounds may heal immediately. When the pruning has been thus deferred, till the trees have gained considerable size, we would never advise to cut off large branches, unless they have become defective, or are interfering with others to the positive injury of the tree, but rather to thin out the smaller branches nearer the extremities. The undue pruning of an established tree produces opposite evils to those resulting from having a full head, when a tree that has been removed from the nursery with the loss of twothirds of its roots, and a still larger proportion of its spongioles, through which alone the tree derived its nourishment from the soil.

It is painful to go through the country and witness the reckless, and we might say, wanton decapitation of thrifty apple trees, apparently without an object or design: at any rate none founded on reason, nor with the remotest knowledge of the laws of vegetable physiology. Nature, after she has been subjected to this kind of *butchering*, ever true to herself, attempts to repair the injury, and at once sends up half a dozen "*water sprouts*" to take the place of the branch that has been destroyed, and these assume an upright growth, giving a less perfect form to the tree, and leaving the mutilated stumps exposed to decay, which ultimately leads to the premature death of the tree.

2nd. The height of the main stem of the tree should be governed, somewhat, by the habit of growth of the particular variety; for instance, the Belleflower, Pennock, and various other kinds, grow with drooping branches. These should be trained to about four feet to the commencement of the head. Trees of a more upright growth should never be trained to more than *half this height*. The error has long prevailed of training fruit trees, apple, pear, and peach, too high. The trees, generally assume a leaning position, with the prevailing winds. The fruit is more difficult to gather, and is also more liable to injury in falling, while we know of but one advantage that can be claimed in favor of high training, and that is, rendering it more convenient for cultivating with the horse and plow, or cultivator. While the trees are small the team can be run quite near them, and the weeds and grass that cannot be reached may be easily removed with the hoe, and in a few years the shade of the tree will prevent a vigorous growth of them about the stem, so that in fact there is nothing gained by running the trees up to the unnatural height of beanpoles, but much is lost. To form a handsome head to a fruit tree, the work should be commenced in the nursery. The stem should be cut back so as to cause the head to start at the point we have named. When this has not been done, the orchardist, in transplanting, should have the object in view, and cut back the stem accordingly in order to encourage the growth

of a lower tier of branches. For this reason, we prefer to plant two year old trees, when well grown, to those of a larger size that have been improperly trained in the nursery.

3d. From what we have said above, large branches will seldom require to be removed.—But when, through previous neglect, it becomes necessary, let the branch be removed with a sharp saw, and near to the body of the tree. Like the amputation of a member from an animal subject, let it be done with skill, and only in extreme cases of necessity. The best application to such wounds is a solution of shellack in alcohol at about the consistence of common paint, applied with a brush or sponge, after the outside has been slightly dried. Place a quantity of shellack in a bottle of alcohol and set it in a warm place and shake it occasionally, and in a few days, it will be ready for use. Experience will suggest the proportions. Keep the bottle closely corked, and it will be fit for use for years.

CULTURE OF THE GRAPE.

In no season, since the introduction of the grape culture in Ohio, has the mildew or rot proved so disastrous as the past. The cause of this disease has been the subject of much discussion among those interested in the culture of the vine, and several committees have been appointed by the Cincinnati Horticultural Society to investigate the failure of the grape crop, with a view to apply, if possible, some remedy. It has frequently been suggested that the system of pruning as now practiced by vine dressers is one not strictly in accordance with the laws of vegetable physiology—that the annual cutting off of so large a proportion of the growth of the preceeding year, at the time of the winter pruning, destroys the equilibrium between the root and the vine and prevents the perfect elaboration of the sap, and may aggravate the disease, if it is not in some instances the predisposing cause. It is a fact, however, that in seasons like the past, when the early part is marked with excessive rains, the rot most generally prevails to its greatest extent.

We publish below the report of one of the committees appointed by the Cincinnati Horticultural Society on the subject of the failure of the grape crop the past season. We have frequently noticed the peculiar exemption from disease of the fruit of those vines that grow up the sides of buildings or upon trees, where they have extended their branches beyond the reach of the knife of the cultivator. We noticed, during the past season a large vine that had been allowed to cover an arbor as a shade over a pump, extending up the sides of the dwelling. Those parts over the well and most remote from the house were much affected by the rot, while on those branches that extended to the house the grapes were sound and of large size, and well ripened. Whether the building in this instance and those refered to in the report produced any favorable effect, by reflection, or in some other way, upon the growth of the vine and the perfection of the fruit, we are not prepared to state, but vines thus trained and allowed to extend their branches beyond those under the practice in field culture are always the most healthy and the most productive. These facts, in view of the great loss which of late has attended this branch of cultivation in the west, are matters worthy of investigation, and we are glad they are attracting the attention of the Cincinnati Horticultural Society. We do not know how the early part of the season, as to rain, in the grape growing region of Missouri, compares with that in Ohio, nor do we know what difference exists in the quality of the soil, in the two sections referred to, but our vine growing friends of Missouri have been much more successful than the vine dressers in Ohio, the past season. As a matter of public interest, we should regard it as a favor, if some of our Hermann friends will give us their views in connection with these facts for publication in the *Valley Farmer*.

The undersigned Committee appointed to investigate the cause and extent of the failure of the grape crop in this vicinity, beg leave to submit the following report:

As the large vineyards had been visited by a previous Committee of this Society; I, therefore directed my special attention to the smaller ones; hoping that I might obtain the unbiased opinions of those whose maintenance is derived from the vineyard.

From observations made and information gathered, I should judge that the deficiency this year in Hamilton County alone, will fall little short of half a million of dollars, and a large portion of this, fall upon and is severely felt by those industrious Germans, who at an immense amount of toil have trenched their 3, 5 or 10 acres, and now suffer the failure of their expected reward.

The successful culture of the grape is of vast importance to the Country, when we take into consideration the number of hands and the capital employed, the value of the exports of Wine from this City, and the high eminence it has attained; to say nothing of the rise in the value of the lands devoted to its culture. Lands which could not be sold for $10 per acre, have since the introduction of the vine been sold for up-

wards of $70. I need not remind this Society of the eulogy it has so often bestowed upon the Catawba, or refer it to the able articles, that have been writen in its praise, by our late President, Dr. Warder, in that valuable work, the Horticultural Review. The superiority of its Wine speaks for itself, and its merits are acknowledged through the length and breadth of this vast Union.

I have been informed and believe it to be true that more than one of our large cultivators has in serious contemplation the abandonment of the Catawba as a wine grape in consequence of its liability to the mildew and rot; and I know of one firm that has been multiplying vines from the bud of another sort. Some have already given it up altogether.

Although the present aspect of the Catawba looks gloomy in the extreme, may we not hope that some remedy may be found, or some new mode of culture adopted, before so valuable a grape is abandoned. Would not a premium be well bestowed by this Society to the person who could by a new mode of culture or otherwise, secure a full crop.

Do not vine-dressers forget by their mode of pruning, that they are causing a disarrangement in the relative proportion that the roots and branches naturally have to each other, by the immense cutting and hewing of the vine annually, now miscalled pruning?

And is the fact well considered, that the Catawba is only a wild vine, and not one that has been brought by the art of man into an artificial condition, as most of the vines of Europe have been. A gentleman told me that he had taken a wild vine and had subjected it to similar pruning as it is at present adopted in the vineyards, and it has not borne a sigle full-size bunch since. One vineyard that I visited, with a southern aspect, clay subsoil, no stone for ten or twelve feet, vines four feet each way, double trenched, produced not one-sixth of a crop.—The first row of vines about six feet from the house, a year ago last spring he made into an arbor, to protect the house from the sun. He let the vines grow with as much wood as possible, to shade his window, and to his surprise he got a heavy crop of grapes—but the vineyard, only about one-third. This year he has made an arbor three parts round his vineyard, and had half a crop on the arbor, and one-sixth in the vineyard. He intends to take up two vines and leave one through his vineyard and leave the one to supply the place and canes of three. He further remarks that short pruning forces too much sap in the wood from the excess of roots in comparison with the vine; that the canes do not ripen as well, especially on old vines, and is more liable to be injured by severe frosts, and that the bud is started too early in spring.—Before he built his new house he had a Catawba vine that matured over 350 bunches.

Another German who has between four and five acres has nearly as many grapes on about three hundred feet of arbor and trellis and two vines on his house, as he has in the whole of the balance of his vineyard.

I visited a large portion of the White Oak settlement; and in that district the grape crop is a complete failure. One place I observed some vines had run up some cherry trees, and they were loaded with grapes. Under pretense of getting a glass of wine, I went into his house. He said he was quite sold out; he had not over one-sixth of a crop last year, this year it was not worth gathering. He said he was about to plant fruit trees and destroy his vineyard. I advised him to try another mode of pruning and pointed to those in the trees as an example. I remarked that there was too much root for the small quantity of wood left on the stakes. He said something to his son in German, and took me to the other side of his house, where he had ten or twelve vines loaded with fruit. In digging a drain for his cellar he had cut off the roots of one side of the vines, and my remarks of too large a quantity of roots for the small quantity of vine led him to see the effects of root pruning. He had cut off one half of the vines and one half of the roots, and thus he had preserved an equal balance of the vegetative powers of the vines.—And thus he illustrated (although accidentally) to any unbiassed mind the sure principle of vegetable physiology and thus proved that a vast deal of labor is annually performed on the vine which cannot be called useful or valuable. I will give but one other statement, and with it I will close this report.

It relates to a vineyard which belongs to a member of this Society. Soil a sandy loam.—It was not trenched, but subsoiled by the plow. I think that this is one of the best and most judiciously planted vineyards that I have met with. His vines are planted wider apart than usual, and every five or six rows he leaves an extra space, wide enough for a wagon to pass whenever required; he says it is a great labor saving plan, and it more than doubles the rent of the extra land, besides giving the vines a greater supply of sun and air. He has never lost a crop until this year, and then his grapes were as large as peas when there came some heavy rain and very hot weather with showers. His vine-dresser was sick at the time, and he considers that he lost his crop for the want of plowing at that particular time. A. A. Mullett.

Mr. Buchanan related to the Society some very interesting facts in his own experience relating to the culture of the grape in this vicinity. Mr. Buchanan stated that the spear and bow system have produced fair crops with him—that arbors which showed beautiful prospects were all swept off by the mildew and rot—those vines which were trained against the house and board fences had escaped; he had trained some long this year, and the rot and mildew followed; three or four systems were tried, but bad effects followed them all; some vines had been summer pruned and some not—all with no better effects. In all limestone formations there had been the same disasters. On sandstone foundations crops had been mostly saved. Mr. Buchanan considered atmospheric causes to be the great origin of the

difficulty of rot and mildew. This was the first year after twelve years cultivation that his vineyard had failed. New vineyards escaped more than old ones. It was the experience of all that in the third year, the grape produced generally a few bunches; the fourth year a good crop; fifth and sixth years generally a full crop; after that it was more common for mildew to appear and the vineyard rather deteriorates in general with respect to mildew and rot. Mr. Buchanan's experience is, that the roots of the vine descend five feet in our soils trenched two feet deep, and then mildew commonly followed. The trouble seems in the root chiefly. If the ground were dug five feet deep, he thinks that the roots would descend still deeper in proportion. Both Messrs. Buchanan and Cary agreed that the line above frost, or *thermal* line, as in the Southern Alleghanies, was a point in cultivation above danger.

THE ORCHARD.

The most appropriate season for planting trees upon land best adapted to the apple and peach is the fall, but the too prevailing custom is to defer the work until spring. Where this has been done, no time should now be lost in preparing the ground and transplanting the trees. This should be completed, if possible, before the fifteenth of March, unless in places so far North that the ground is not yet in working order.

CHOICE OF SITUATION.

The most elevated ground upon the farm, all other things being equal, should be chosen for an orchard. If the land is rolling, the northern slope of the hill should be selected. Cold air is heaviest and always descends to the valleys and basins, while the air that surrounds the tops of the hills, being several degrees the warmest, floats upon the lower strata, as oil does upon water. Trees set upon sides of hills, exposed to the warming influences of the sun, are liable to a premature flow of sap, and swelling of the buds, which being followed by late spring frosts, causes the destruction of a large portion of the fruit, at least as often as three years in five, in sections of country lying south of the 40th degree of latitude. Much can be done in the judicious choice of situations, and in the preparation of the soil, by draining, &c., where the land is inclined to be wet, to guard against these evils. As the timber is cleared off and the country becomes more exposed to the varying winds, loaded with the extremes of heat or cold, according to the point of compass whence they come, so will the uncertainty of our fruit crops be increased.

The apples which have supplied our markets the past season, many of them, have been brought hundreds of miles by railroad and by water. As the freighting facilities increase, the wider the market is opened for all kinds of fruit, so much so, that it will be impossible for many years to come, to fully meet the demand. Ultimately the thousands of hills and knobs, along our water courses, that are generally of but little value, for agricultural products, will be selected and planted with fruit trees. There are many such places where even the tender peach has not been known to fail for the last twenty years. The soil of these hills is usually thin, but it will generally be found sufficiently rich for both the peach and the apple, and when this is not the case, either from being naturally poor, or from improper culture, with a little management, it can readily be improved. Upon rivers and streams, those elevated points and promontories, which, from the position of the surrounding hills, and the turn of the streams, expose them to the greatest accumulation of the vapors from the water, are the most reliable for fruit growing. Such situations have an advantage over those not exposed to the influence of the water, that are even many feet higher.

APPLES—WHAT KIND TO PLANT.

As the *Valley Farmer* circulates over so wide an extent of territory, with a corresponding variation of climate, it is difficult to give a list of apples, best adapted to the various locations. In our former volumes we have given lists that are generally applicable to the West. But persons of experience in each neighborhood can generally do better in making up lists for each particular locality. The various horticultural societies and fruit conventions are doing much in forming correct lists. We will, however, remark, that in the more northern portions of the country, and in some favored situations, a small number of the very best varieties, is more profitable than a longer list. But in the South and West generally, where the crop is so frequently cut off by frost, it is better to enlarge the list of varieties, even if some sorts of less value are included; because some kinds will fail one year, while others may yield quite a crop, and, from some cause, be less fruitful another year. Something depends, too, upon the extent of the orchard, and the object for which it is planted. If for market, winter kinds that are most productive, best looking, and will bear handling the best, should make up the largest portion. If an orchard is to be planted only for family use, a succession of the best kinds from early summer to winter should be selected. Many kinds of superior excellence,

though of medium size, if sure bearers, would be suited to the garden of the amateur, but would be of but little value for market.

PEACHES.

What we have said in regard to a situation for apple trees is also applicable to the peach. In our January number for this year, we also alluded fully to the culture of this fruit, and in the present number, in answer to a correspondent, we have explained clearly the best method of training fruit trees, and have endeavored to enforce the importance of securing low heads. By this form of training, the labor of cultivation need not necessarily be increased. If the plow can not be run sufficiently near the trees to cut up all the weeds, by the use of a triangular frame, made precisely like that for a three cornered harrow, only somewhat lighter, supplied with five or seven cultivator teeth, the most thorough cultivation may be effected, and with greater facility than when done with the plow. It only requires to be run more frequently, in order to keep the surface continually mellow, and this is as important in the orchard as in the corn or potato field, or the cabbage ground.

PEARS.

The subject of the culture of the pear, particularly upon the quince stock, has been widely discussed during the last year, growing out of some rather severe remarks of Lewis F. Allen, of Black Rock, N. Y., upon the question, "Can *Dwarf Pears* be profitably grown for Market?" Mr. Allen assuming the negative, while a strong array of able and experienced cultivators fully sustained the affirmative.

In favorable soils and locations, the pear, we believe, may be grown with greater certainty than the apple, but it requires both good soil and good culture, and no one need expect to be successful with the dwarf pear, unless both these requisites are secured to the full extent. Within the last twenty-five years, two or three hundred varieties of the pear have been introduced and cultivated in the United States, but out of the whole number comparatively few are worthy of cultivation.

Twenty-five varieties that experience has proved best suited to our soil and climate, are worth all of the remainder; and generally the number of kinds may even be reduced much below that to advantage.

Among the best for standard varieties are the Bartlet, White Doyenne, Flemish Beauty, Seckel, Shelden, Beurre d'Anjou, and Lawrence. In certain situations, others may be added to advantage. For dwarfs the Louise Bonne de Jersey, Duchesse d'Angouleme, Vicar of Winkfield, Beurre Diel, and Easter Beurre, are among the best.

APPLE TREE ROOT BLIGHT.

Nurserymen are aware that the roots of apple trees frequently appear diseased, that is, the small rootlets become enlarged, in the form of little bulbs or excresences, which present a kind of dropsical or watery appearance, and in removing such trees from the nursery, these diseased roots are found tender and liable to be broken off in removal or in re-setting in the orchard. This diseased condition of the roots is caused by an insect, sometimes called *Eriosoma Pyri*, not unlike the lice found on the leaves and branches of trees.

Grounds long occupied by apple trees, or where repeated crops are propagated in the same ground, are more liable to injury from this insect than when but a single crop is grown, followed by trees of some other kind. They are also more frequently found on the roots of trees that have not received proper cultivation, and have become stunted in their growth. Young trees that have been transplanted, and from neglect of cultivation make but a slow growth, should be examined, and the roots laid bare, and where the white, cottony like insect is discovered, a small quantity of ashes and water should be poured into the hole and the earth returned, and the trimming of some of the stunted and defective branches, and a good plowing, will give them a start.

This insect, like all of the aphies family, multiply with astonishing rapidity, living upon the juices of the tree by piercing the bark, and thus deprive it of its life blood and causing the enlargement of the roots, as we have described.

ILLINOIS HORTICULTURAL SOCIETY.

We shall condense from the *Prairie Farmer* such portions of the proceedings of the Illinois Horticultural Society, as we think will be interesting to many of our readers. We regret that we have not room to publish more lengthily from the report in the present number of the *Valley Farmer*.

FIRST DAY—AFTERNOON SESSION.

The President stated that the subject for discussion for the afternoon and evening would be the cultivation of the apple.

F. K. Phœnix, of McLean, being called for,

stated that in grafting the apple he would in all cases select young seedling roots, and side roots could not be too strongly condemned. Was of opinion that too little attention had been paid to selecting apple seed. There is a great difference in seed as ordinarily sold and planted, and enough attention has never been paid to procuring the best seed and raising the best stocks. It is a law of nature that like begets like, and this is as applicable to apple seed as anything else, and therefore we should endeavor to perpetuate in the stock the good qualities of the parent. He had heard that in Indiana the seed of the White Pippin was highly esteemed as furnishing an excellent stock. Favorable mention had also been made of various crabs.—Specimens of the English Hedge Crab are occasionally met with among pear seedlings: believe it might prove valuable, and experiments with it be worth trying. Nurserymen ought to endeavor to procure their seed from Western grown fruit, and not from the East, as is now mostly done. Great improvement might be made at this starting point in nursery operations. Every gentleman present, who had experience in raising stocks, must be aware of the great difference to be seen in individuals, some having straight roots, others straggling, some growing rapidly, others very slowly.

A. R. Whitney, of Lee county—I have for several years raised my stocks from seed saved from my own bearing seedling apple trees.—One bushel of the seed I saved myself will produce more good seedlings than five bushels of ordinary Eastern seed. Thought highly of a seedling crab from Yellow Siberian. It had attracted the attention of Mr. Barry, of New York, who advised him to watch it closely. It is hardy and a free grower, and may prove valuable as a stock.

C. Kennicott stated that he was much interested in the experiments of Mr. Whitney, in raising seedlings from Hue's Virginia Crab.—They grow freely when young, and will undoubtedly produce a much hardier stock than most apples. Indeed they have been recommended by Eastern writers years ago as worthy of attention.

C. R. Overman, of McLean—The seed is the germ of the future tree, and therefore all important. Good stocks are the very foudation of success in the nursery and orchard. It would undoubtedly be well to discriminate in saving seeds. Mentioned an orchard of seedling trees all the produce of seeds of the Bellflower, showing that seeds even from the same kind would often differ very widely. In the seedling orchard instanced the fruit all retained the general and well marked Bellflower type, though on some trees it would be larger, on others, smaller; sometimes sweet, again quite acid, with just as wide differences in point of ripening. Had noticed the same thing in seedling crabs; they differ greatly in size, flavor, and habit of growth. What we want is straight, free growing, hardy stocks, and to grow these we must preserve the seed from trees that promise the desired qualities.

The President—From my own experience and that of others, I know that imposition is quite frequently practiced by dealers in apple seeds, usually the result of ignorance rather than dishonesty. The seed is often fatally injured at the time of washing, by allowing it to become heated. I agree entirely with the gentlemen who have preceeded me in thinking that nothing would pay nurserymen better than greater care in raising their stocks. Seed, as ordinarily sown, produces many seedlings of stunted growth, not natural dwarfs, but unhealthy poor stocks, that, under no circumstances, can be made to produce trees. The best thing to do with these stunted seedlings, is to throw them away, and every nurseryman will find it to his interest to so dispose of them.

C. R. Overman, of McLean—more serious losses have occurred from planting poor seed than from nearly all other causes combined in the incipient stage of nursery operations.

The President—Much of the seed put into market is injured by the manner in which it is got out; some mills break and bruise the seed badly. Although seedlings raised from the same tree differ nearly always still by planting the seed of a vigorous grower, the offspring will also be vigorous.

A. R. Whitney, of Lee—Mills properly constructed do not injure the seed.

A number of the gentlemen present spoke very highly of the seeds furnished by Mr. Root, Skeneatalas, N. Y.; Mr. R. had been for many years in the business, and had proved his thorough knowledge of the proper method of procuring good seed. If seed could not be procured at home, then they would greatly prefer Mr. Root's seed, the reputation of which is so excellent, that no one could accuse them of wishing to puff a dealer in seeds.

F. K. Phœnix, of McLean, stated that he had known the seed to crack naturally while drying. Good seed should be plump and of a bright color.

The President—Apple seed should be thoroughly examined before planting; if you plant inferior or worthless seed, you not only lose the price and the cost of planting; but you lose a whole year's time, which is of much greater importance than many times the cost of the seed.

M. L. Dunlap, of Champaign, said that he had at various times imported into the State over four hundred bushels of apple seeds, and had grown millions of stocks. He would relate the manner of keeping them over winter for spring planting, which had proved the most successful with him. Select fresh, bright seeds, plump and unbroken. Seeds over a year old seldom germinate. Take a box or barrel, bore holes in the bottom so that it can be easily and perfectly drained, then put a layer of sand in two or three inches deep, then mix your seed in damp sand about half and half. The sand must not be suffered to dry, and should be placed where it will freeze through and through.—Many persons lost their seed by its getting dry after freezing. Did not believe freezing absolutely essential. Once had excellent success with a lot of seed received late in March and

early in April. He placed the seed in shallow boxes slightly covered and mixed with fine sand and exposed them at night when frost came sufficient to stiffen the sand but not freeze the seed. Perhaps the very best plan is to freeze the seed the last frosts before warm weather commences, keeping it dry during the winter.

C. R. Overman asked Mr. D., if the seed ever heated or sprouted in the sand during winter; the reply was, that it did not.

F. K. Phœnix, of McLean—Why not bury in boxes below ground? Which do members prefer, planting in the fall or spring?

M. L. Dunlap—I had been taught to sow apple seeds in fall; used to think there was no other season proper for the work. My own extensive experience, however, has taught me that here in the West, at least, it is much safer and better to plant in the spring. I have always met with a partial and sometimes entire failure, at least once out of every two crops. The chances are more than two to one against fall planted seeds; they are so apt to be cut off by early spring frosts.

F. K. Phœnix—I have seldom lost fall planted seeds by early frosts; do not think they are so very tender; perhaps, hard frost would kill them when just up.

MONTHLY HINTS FOR THE GARDEN.

BY CAREW SANDERS.

MARCH.

THE VEGETABLE GARDEN.

Any time after the first of this month, we may look for gardening weather, and by the middle, we may safely calculate to be busy.—Every thing should be in readiness, tools, seeds, &c., to take advantage of the first opportunity.

All ground intended for early crops should be plowed or dug as soon as possible after the soil gets dry enough, manure incorporated, where required, and the harrow, clod-crusher, rake, or any other instrument that will do the work of pulverizing and loosening and making the soil fine, for the reception of the seeds, should be brought to bear on it. As advised last year, commence to sow the hardiest kinds first, and sow peas, onions, salsify, parsnip, &c., as early as the ground can possibly be got in workable condition. Then follows the next hardiest, and the next, until you finish off, with the tropical Lima bean, and Gumbo. Some of the best varieties of vegetables we have found for early and late, or main crops, are

Beets—Extra Early Red, and Turnip Blooded.

Peas—Landreth's Extra Early, Prince Albert, and Champion of England.

Onions—Yellow Strasburgh, from sets, Red Wethersfield, and Silverskin, from seed.

Parsnips—Hollow Crowned or Sugar.

Carrot—Early Horn. Long Orange.

Cabbage—Early York, French Oxheart, Drumhead, and Bergen.

Lettuce—Curled India or Ice, Silesia, and Imperial Cabbage.

Radish—Long Scarlet, Red and Yellow Turnip.

Snap Beans—Early Yellow 6 weeks. China Dwarf, and Brown Valentine.

Turnips—White and Purple topped Strap-leaved Dutch.

The first named varieties, are all intended for an early sowing, and to come into use first. The last named varieties for later, larger, or main crops.

Last month, we gave a brief outline of what the farmer's garden should be. It was a mere sketch, without the filling up. And there are so many circumstances to vary the details, that no definite rules can be laid down as a guide.

It should, at all events, contain, in the kitchen garden, and orchard, a select assortment of fruits, of such varieties as flourish best in each region, and in sufficient quantities to supply abundantly the wants of the family, and some to spare, occasionally, for a friend or visitor. We must refer our readers to the past numbers of the Valley Farmer, for select lists of fruits of all kinds adapted to our latitude.

THE PLEASURE GROUNDS OR DOOR YARD.

For the present we will revert to the pleasure grounds, or door yard, and see what can be done with *that*, to render it attractive, and make it part and parcel of the farmers' home joys.

If the house stands but a short distance back from the road, the ornamental part may extend to it, with such a width on each side as the farmer can afford. But if it stands on an eminence, at some distance from the road, the field in front might be left in pasture or meadow, with a few old trees left, or young ones may be planted and protected from cattle, which will, in time, give quite a park-like appearance to the place, from the road. This will not do away with the necessity of a fence, near the house, to enclose the yard itself, and keep it free from the intrusions of cattle, except in the case of a meadow, where no grazing is allowed—when the front might be left open from the house, to the boundary.

The door yard need not be a perfect square, or straight lined enclosure. The front fence may take a semicircular, or other graceful form, to suit the ground and please the eye.

WALKS, TREES, &C., NOT IN STRAIGHT LINES.

The walks need not be all straight lines, or angles, and right-angles, but may be made to curve or sweep gracefully and naturally, to their respective destinations. The trees need not be all planted in stiff, formal rows, and trimmed up to a single stem, head high, or stand in pairs opposite each other, like sentinels guarding the entrance. Trees in the streets of a city, or by the roadsides, or on each side of a long, straight avenue, look well enough when planted in rows; but in the flower garden, or on the lawn or pleasure ground, they should be dotted here and there in groups and thickets—here a group of three or four; there a single specimen; here a broad open space without a tree, with an outlet forming a vista; there a thicket of

XUM

trees and shrubs, all mixed together, forming a sort of jungle, hiding some unsightly object. By this means more variety, breadth, beauty and interest may be given to a small place, than by the usual method of laying out and planting such places.

TREES, FLOWERS, SHRUBS, &c.

But trees and flowers and shrubs, in some form or shape, the farmer must have. They are as much a necessity to a cultivated and refined taste, as poetry is to music. The one cannot live without the other. We even question whether that man or woman must not be entirely devoid of all the finer feelings of our nature, who can say, he has no love for trees or flowers. We almost doubt if there can be such, while with very many we know the love of them is the ruling passion.

EVERGREENS

Are indispensable, and we have mentioned in a former number, a few of the best varieties of these. We will here recommend what we conceive to be the best deciduous, ornamental or shade trees, that is, taking their accessibility and cheapness, as well as intrinsic beauty and merits, into consideration. Some flowering shrubs and a few dozen herbaceous perennials, with annual flowers and greenhouse bedding plants, planted out each summer, will complete the assortment.

The Elm is one of the best and handsomest of our ornamental trees, a fast grower, of elegant form and habit, wi h a broad, umbrageous head, affording a delightful shade. It is, moreover, very patient of removal.

The Maple stands next in point of beauty. The silver leaved is a fast-growing, handsome tree. The sugar is of slower growth, but a noble tree, especially pretty in the fall, when its leaves change to the rich golden hue known to all. The scarlet and sycamore maples are unlike either of the above, and are both desirable, handsome trees.

The Linn, or Linden.—The European Linden, when standing on the open lawn by itself, forms one of the most beautiful objects a single tree can afford, growing in regular conical form, with its branches almost sweeping the ground. The American Linden is not quite so handsome, having a coarser and less elegant appearance, though a fine tree.

The Poplars.—Where extreme rapidity of growth is desired these may be planted to some extent, though they are short-lived and objectionable, on account of their liability to sucker. They, however, afford a fine shade, in a very short time, and might be planted with the intention of removal afterwards.

The best kinds of poplar are the Abele or Silver, the Cotton wood, Balsam, and the Lombardy.

The above varieties might form the staple of ornamental trees, to which may be added a tree or two each, of the following: Catalpa, European larch, Deciduous Cypress, Horse Chestnut, Birch, Locust, Mulberry, Tulip Tree, Buttonwood, Liquidamber, and many others that the taste or fancy of the planter might lead him to choose.

DECIDUOUS FLOWERING SHRUBS.

Every garden should contain some of the old fashioned Lilacs, Snowballs, Rose of Sharons, &c. We would by no means ignore those old favorites, for we love them still, and would blend and intersperse with them the more recent introductions that explorers have given us, and which are now becoming common in our nurseries.

The Spireas form quite a variety of themselves, blooming one after the other nearly all the season through. S. Prunifolia is the first to greet us in the Spring, thickly covered with its tiny buttons of snowy whiteness, followed soon by the elegant S. Reevesii and Reevesii plena, with hawthorn like blossoms of surpassing beauty, and foliage of a peculiar bluish tinge. Then S. Callosa, with large corymbs of reddish colored flowers. S. Douglassii and S. Lindleyana, the one with spikes of white and the other rose colored flowers, blooming along towards Fall. There are numerous other species, with peculiar foliage, but with flowers not better or as pretty as the above named.

The Wigelea Rosea is a glorious shrub, hardy, blooming early and abundant; one of the very best. W. Amabilis is useful in blooming much later in the season than the above.

The Deutzia Scabra and Gracilis are both elegant, blooming shrubs, pure white and perfectly hardy. The white fringe is another beautiful object, and to contrast with them there is the (Cydonia Japonica) Bright Scarlet, Rose Acacia, Rosy red, while for yellow we have the Golden Bell, (Forsythia Viridissima,) Missouri Currant, Ribes Aureum, Hypericum Kalmianum, Bladder Senna and Corchorus Japonica, and a host of other beautiful things too numerous to mention here, of all colors, white, red, purple, yellow and others. We can only advise planters to consult nurserymen's catalogues, if they want a more extended list than the above.

St. Louis Nursery, Feb. 25, 1859.

SPRING DRESSING AND CLEANING FRUIT TREES.

The ground of every young fruit orchard, of apples, peaches and pears, should be well plowed, care being taken not to injure the roots.—In addition to this, all the moss should be removed from the stems and branches, and the whole receive a good coat of soft soap, into which has been stirred a quantity of sulphur.—The soap may be of an inferior quality and may be put on thin, or it may be somewhat diluted, though if applied in its full strength, will do no harm. Whaleoil soap, that is, soap made in the process of refining spermaceti for candle making, is the best, but common soap will answer. This application kills the bark louse and the thousands of other insects, and eggs, that are lodged on the bark, and give a smooth and healthy look to the trees. This kind of treatment will pay many times for the cost and labor in the health and vigorous growth of the trees, and should not be neglected.

The Home Circle.

HOME TRIALS.

In our home circle we seek to encourage and cultivate the virtues and graces, that should ever adorn the inmates of home, and make that place the beautiful and peaceful retreat of the affections which it should be. But say all we will about its joys and blessings, it has its trials as severe as its joys are pleasant and tender. Where does disease place its plague-spot and send its pain? Into the form with every lineament of which is linked an association of affection. Companions are worn and tired and weary. Sweet children sicken and suffer and die, and their little clothes and playthings are left to wake sad memories of a joy that has fled. Friends fall out; the holiest love is bereaved; farewells are uttered on the threshhold or at the dooryard gate. Sin enters, infidelity, drunkenness, crime, then how loving hearts bleed:—Sickness, long, wasting, saddening and yet not unto death, comes and wearies love and care.—Watchings are often; rebukes sometimes and misunderstandings.

Pleasant as home is, it has its trials. But shall it be more miserable on account of these? No, no. These must come. They are the incidentals of life. We shall have more or less of them whether we have a home or not. With religious trust and love we should do the duties of our office in the home circle, and what evils we cannot prevent, we must bear with fortitude. They may discipline our spirits, and do us good. They may teach us useful lessons and prepare our spirits for a more beautiful and perfect home hereafter. "Those light afflictions, which are but for a moment, work out for us a far more exceeding and eternal weight of glory."

Written for the Valley Farmer.

THE FAIRY OF THE ROSE-BUSH.

The little Mabel lived with her mother in a cottage, in front of which was a garden full of all sorts of flowers. In the Spring there were mezereons and snowdrops, and crocuses, and hyacinths, and tulips, and in summer tall white lilies, sweet honeysuckles, jessamines, and ro-es of all colors, white, pink, crimson, and yellow; when Autumn came there were dahlies, asters, and artimesias, and many more flowers indeed than I can tell, and what Mabel liked almost as well, large clusters of sweet purple grapes hung on the vine over the arbor.

Mabel loved the flowers, and was sorry when the frost came and put them all in mourning, and her mother gathered the bright artimesias, and the red berries from the fire-bush, to dress the rooms at Christmas, and when winter came, making the branches of the trees bare, and hiding all the flowers with a quilt of snow, Mabel watched from the window the little brown snow-birds, that came for the crumbs which Bridgetta shook out of the table-cloth.

In the centre of Mabel's garden was a rose-bush more beautiful than any of the others; the petals were finer and softer than any velvet, and its color so bright a crimson that you could not look at it steadily when the sun shone on it, and there were never less than twenty roses, each of them large enough for a thousand fairies to hide in, beside a great many buds, upon it every day. Many people who passed the garden stopped to look at it and say, "What a pretty garden, what a beautiful rose-bush!"

Mabel, who played in the garden, heard these words and thought to herself, "I wish I was as beautiful as the rose-bush, then I should be liked;"—and she went near to the bush, which seemed more lovely than ever, since she had heard so many people praise it, and again she wished she could be loved as well as the rose-bush.

There was no one in the garden just then but Mabel, and no one looking over the gate to admire the flowers; and while Mabel was wishing to be like the rose-bush, right out of the centre of the highest rose on the bush came the prettiest little fairy you ever saw. Her soft brown hair was all in ringlets, and her eyes were kind and gentle, like your mother's, when she is pleased with you, her dress was of fairy damask, just the color of the rose leaves, and a chain of tiny pearls shining like dew was round her neck.

"So, little Mabel, you would like to be loved as the rose-bush, would you? said she. Mabel blushed very much, but said, "Yes, I would indeed;" "See here," then said the fairy, "my name is Luly, and I will give you this ring, whenever you wish to do any thing look at the ring. If it turns pale do not do it, but if the ring looks darker and brighter, no matter how difficult it is try to do it, and I am sure you will be loved."

When Mabel looked up again, as the voice paused, she could see only the bright roses, but on her finger was a ring with a blue stone in it, which looked like a little piece of the blue sky, and Mabel wondered how the fairy climbed up to get it, and whereabout in the sky it had been cut out.

If I were to tell you all about Mabel it would take too long now, but I can tell you that she followed the fairy's advice—she tried to do all those things which made her ring look brighter, and so became very kind, very gentle, never speaking cross words, and when she grew up every one loved her. She always wore her fairy ring and loved it, because she found that doing what made the ring brighter made her a great deal happier; and if ever she did what made her ring pale, she was sorry and unhappy afterwards. Do you wish you had such a ring? Always try to do right, it will be the same as if you had the ring.

ALVINE GUTHRIE.

Sing Sing, N. Y.

The Young Folks' Page.

ASTRONOMY. No 3.

In our second article on astronomy, we confined our remarks to a brief explanation of the planetary, or solar system. We will now pass to other regions of creation, and contemplate, for a moment, the nature of the fixed stars.—Stars differ from the planets, by being fixed or stationary in the heavens, and are at an immeasurable distance from us, and in numbers and magnitude, such as none but the Great Infinite Mind, which ordained them, can conceive. The nearest of these fixed stars, by the best calculations that have been made, are supposed to be not less than *twenty* millions of millions of miles from our globe—a distance through which light (the swiftest body in nature) could not travel in three years, or a cannon ball flying at the rate of 500 miles an hour could reach in four millions of years.

From recent discoveries it is supposed that the fixed stars are arranged in clusters, or groups, which astronomers distinguish by the name of *Nebula*, or *Starry Systems*, each nebula consisting of many thousands of stars. The nearest of the kind to us is that whitish space, or zone which we call the *Milky Way*, to which our sun is supposed to belong. When viewed with the naked eye, only a cloudy light is visible, but with the aid of a good telescope they are distinguished as separate and distinct stars. The great astronomer, Herschel, with his powerful telescope, found within the compass of fifteen degrees long and two broad, *fifty thousand* stars. More than *three* thousand nebulae have already been observed; and could we travel to the nearest of one of these stars, it is probable that countless numbers more would be discovered. And so on throughout the boundless realms of space. It is now very generally admitted that each of these stars is a sun as large and probably larger than our sun, and around each one revolve numerous planetary worlds, like those which move around our sun, of which the earth upon which we dwell is but a small one; and yet all the movements of this immensity of matter throughout the eternity of space goes on from year to year, and from age to age, in the most perfect order and harmony. How numerous then, the worlds and beings which exist within the boundless range; and how great beyond all human conception must be the power and intelligence of that Being who called all this into existence and guides their unerring movements. The science of astronomy demonstrates beyond all other departments of human knowledge, the *grandeur* and *magnificence* of His operations, and well may we inquire, "Who hath created these things? The heavens declare the glory of God, and the firmanent showeth his handiwork." "When I *consider* thy heavens, the work of thy fingers, the moon and the stars, which thou has ordained, what is man that thou art mindful of him; and the son of man, that thou visitest him."

SPRING IS COMING.

To children no season is happier than Spring. Its weather is warm. The trees put out their leaves. The flowers come into bloom. The birds return and fill all the fields with their refreshing music. The grass and herbs spring up to beautify the ground, and life and joy seem to pervade all things. How all this makes the heart of childhood rejoice! Such a season is soon coming and the earth and all the children will be glad.

Spring is the child of the year. It is born of cold dreary winter. Rough mother; beautiful child. Yes, Spring is a child; that is why the children love it so well. Out of Spring grows the year. Spring grows into Summer, Summer into Autumn, Autumn into Winter. So the Springtime of childhood grows into the Summer of youth, and youth into the Autumn of manhood, and manhood into the Winter of old age. If the Spring is good the Summer will be. So if children are good they will make good people. Good men and women grow of good children; bad men and women out of bad children. Bend the twig of the young oak, and there will be a bend in the old tree. Make a scar in the bark of the sapling and there will be a scar on the full-grown tree. So, if a child tells a lie, it will have a lie-scar on its soul; if he does any mean, dishonest thing, it will bear its scar on the spirit that will not soon be outgrown. Make childhood right and manhood will be good. Let children keep their little tongues free from falsehood; their little hearts free from bad thoughts; their little hands free from naughty tricks; their little feet from running where they ought not to go, and they will grow up to be men and women, which the world will love and respect.

Children love the beautiful flowers and they should love to cultivate them too. We hope our little readers will all cultivate them. Their beauty and fragrance will richly reward them for their labor.

Editor's Table.

A Horticultural Society in St. Louis.

We are glad to chronicle the organization of a Horticultural Society in St. Louis, by the name of the Mississippi Valley Horticultural Society. The Society was organized on the 12th of February, and the following gentlemen were unanimously elected officers for the ensuing year, viz: President, Dr. C. W. Spalding; Vice Presidents, Hon. Edward Bates and William Glasgow, Jr., of St. Louis, Hon. Eldridge Barden, of Lexington, Mo., Dr. E. S. Hull, Alton, Ill., Chas. Kennicott, Odin, Ill., Dr. A. W. McPherson, Allenton, Mo., P. S. Bush, Covington, Ky.; Thos. Allen, Treasurer; F. R. Elliott, Corresponding Secretary; Norman J. Colman, Recording Secretary.

The Society holds weekly meetings at the "Valley Farmer" office, for the discussion of Horticultural subjects—the exhibition of fruits, flowers, &c. Over fifty of our most prominent Horticulturists have become members. The meetings are largely attended and the discussions are valuable.

The Society is not intended to be local, but to take in the whole Mississippi Valley. All those interested in the subject of Horticulture who reside in the Great Valley are invited to become members. The fee that members are required to pay is one dollar annually. We hope that this Society will become one of the most useful and prominent in the Union. We see nothing to prevent it, but everything to make it such. All that the Horticulturists of the Mississippi valley have to do is to take hold of this matter in earnest, and labor zealously in the cause, and its success will be accomplished.

Pomological and Horticultural Society of Southern Illinois.

In accordance with public notice, a number of fruit growers and others interested met in Centralia on the 1st instant, for the purpose of organizing a Pomological and Horticultural Society. B. G. Roots, Esq., of Perry county, was called to the Chair, and M. L. McCord, of Centralia, chosen Secretary.

The officers elected were: B. G. Roots, of Perry county, President; N. D. Ingraham, of Marion county, Cor. Secretary; J. M. Hunter, of Washington county, Rec. Secretary; J. P. Reynolds, of Marion county, Treasurer; W. S. Wait, of Bond Co., Uriel Mills, of Marion, W. S. Bainbridge, Union, Wight Casey, of Jersey, Wm. Yates, of Perry, Vice Presidents.

HONORARY MEMBERS:

F. G. Carey, Editor of the "Cincinnatus," Hamilton county, Ohio; W. R. Arthur, Sup't. I C. R. R.; D. D. T. Moore, Editor "Rural New Yorker," Rochester, N. Y.; Thos. Mehan, Editor "Gardeners' Monthly," Philadelphia; N. J. Colman, Editor "Valley Farmer," St. Louis, Mo., and also the President of the Illinois State Agricultural Society, and the President of the Illinois State Horticultural Society, and all editors of Agricultural papers in this State, were chosen as Honorary members of the Society.—[Centralia Press.

Meramec Township Horticultural Society.

It gives us pleasure to state that a number of the enterprising Horticulturists of Meramec Township, St. Louis Co., have organized a Society, by the above name. Several very interesting meetings have been held and valuable discussions had at them. We wish that every township, not only in our own county, but in the State, and in every Western State would organize a Horticultural Society and hold meetings weekly or monthly, and exhibit fruits, &c., and discuss questions pertaining to Horticulture. It would be the means of awakening a new spirit among the Horticulturists of the country, and spreading useful and needed information among the people. A number of Horticultural Societies have been organized the past winter and we hope that great good may be effected by them. We regret that the space we are enabled to allot in our monthly publication prohibits us from giving in detail the proceedings at such meetings.

The officers elected for the present year are, for President, Dr. A. W. McPherson; Vice President, Samuel Wilson; Recording Secretary, Wm. Muir; Corresponding Secretary, C. H. Haven; Treasurer, Phillip Tippet.

We shall try to find space for some of the interesting discussions hereafter.

The Premiums.

Our readers will bear in mind that this is the last month in which to work for the premiums. We hope that a vigorous effort will be made by competitors this month, and that the lists will be materially enlarged.

The addition of one name or of a very few at least, may possibly be the means of taking a premium. So our advice is to be active and do the best that can be done under the circumstances. If you fail to take a premium we hope that you will feel that you have been laboring in a good cause, and that you have been instrumental in bringing to the notice of your brother farmers a work eminently worthy of their patronage.

HONEY BLADE VS. HUNGARIAN GRASS SEED.—A subscriber inquires whether the Honey Blade Hungarian Grass seed is any different from that which has been extensively grown in the west for the past year or two. We have not seen the Honey Blade, but have no doubt that it is precisely the same as that known as the Hungarian grass seed, and that the sweet name of Honey Blade has been given it to sell it at two or three times its market value.

Syrup from the Chinese Sugar Cane.

John Garnett & Co., have placed upon our table a jar of beautiful syrup from the above cane. We have tasted many specimens, but none of them compare with this. It has much the flavor of the genuine maple molasses, and we would prefer it to our Southern syrup.

In this connection we will state that J. J. Squire, of Bunker Hill, Ill., has handed us a sample of beautiful sugar from the Chinese sugar cane. We also have an interesting article from his pen on the manufacture of the sugar, which was put in type for this number and crowded out. We are glad to see that some can succeed in its manufacture, and hope that the day may not be distant when its culture will prove a valuable branch of farming, for sugar purposes. But it will require time and patience to do this successfully.

XUM

GEOLOGICAL REPORT of the country along the line of the South Western branch of the Pacific Rail Road, in the State of Missouri. By Prof. G. C. Swallow, State Geologist.

Such is the title of a very able and interesting pamphlet, of 100 pages, that has been laid upon our table. Our State Geologist is deserving the greatest praise for his indefatigable labors, and for the marked ability with which he is making a survey of the State. The pamphlet before us contains a very valuable article on the subject of grape culture—showing by an analysis of the soil that South Western Missouri is one of the best grape producing countries in the world, and that there are millions of acres now unoccupied that only await the hand of cultivation to yield a greater profit than any other land in the State.

At some future time we shall make some extracts from this report, and believe that nothing will be read with greater interest by our readers. We consider Prof. Swallow one of the ablest Geologists in the Union, and hope that the Legislature will afford him every facility to complete the survey of our State, believing that it will do more to make known to the world its wonderful resources than all other things combined.

THE RURAL ANNUAL AND HORTICULTURAL DIRECTORY.—We have received a copy of this periodical for 1859. It is one of a series of similar works published annually by Joseph Harris, from the office of the "Genessee Farmer," Rochester, N. Y. It contains treatises on Underdraining, Orchards and Gardens, British breeds of Cattle, Cultivation of Ruta bagas, Ducks, Geese and Swans, Culture of Fruit Trees in pots and under glass, Fruit Culture at the West, &c., &c, together with a list of fruits recommended by the Pomological Society at its session held in New York, in 1858. Price 25 cents single, or $2 per dozen.

MORGAN HORSES.—We direct the attention of breeders of fine horses to the advertisement of Chas. Semple, Esq., in the present number of the "Farmer." Mr. Semple has the best Morgan stock in the West, and those who design to raise this stock should visit his stables.

F. K. PHOENIX, of the Bloomington Nursery, Bloomington, Ill., has just issued his Descriptive Catalogue of Fruit and Ornamental Trees, Shrubs, Roses, &c., of which we are in receipt. It is a well got up catalogue, containing considerable interesting information, aside from the varieties of trees offered for sale. Enclose stamp and address as above.

April Number.

Our printer got along altogether too fast this month—the first page of the present number being headed April. The error was not discovered until the entire edition was worked off. The month is properly printed on the cover and on each of the other pages, so that no particular inconvenience will be suffered. Such mistakes, however, are exceedingly annoying.

Everbearing Raspberries.

I am prepared to supply to the trade, or at retail, the two new and popular French varieties of Everbearing Raspberries, viz: **Belle de Fontenay.** Fruit very large, and plant remarkably vigorous and distinct.—Also **Merveille of four Seasons.** Fruit as large as the Red Antwerp, and the autumnal crop abundant. These varieties, with proper cultivation will bear abundantly till frost.

Price $2 per dozen, ot $12 per 100. Send orders soon.

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Mar.tf. St. Louis Nurseries.

CONTENTS OF NO. 3.

Cultivation of Forest Trees..... 71
Potatoes..... 73
Seeding Meadow Land..... 74
Large and Small Potatoes for Seed; Oats—How much Seed to the Acre..... 75
Reading and Unreading Farmers..... 76
Oats and Peaches; Cure for Warts; Memorial..... 77
Fall Barley..... 78
Vandiver's Missouri Corn Planter; Foretelling the state of the Weather..... 79
Ruling Winds and their influence on the Weather; Spring Wheat..... 80
Sprouting Sweet Potato Plants; To avoid Scarcity and Hard Times..... 81
Earliest and Best Mode of Raising Tobacco Plants... 82

STOCK RAISING.

Wool Growing; Bots in horses..... 83
On "Big Head"..... 84
Important Legal Decision to Stock Growers; The Hollow Horn; Camels for Plantation Wor..... 86

HORTICULTURAL DEPARTMENT.

Pruning Apple Trees..... 87
Culture of the Grape..... 88
The Orchard..... 90
Apple Tree Root Blight; Illinois Horticultural Society..... 91
The Weather and the Fruit; Monthly Hints for the Garden..... 93
Spring Dressing and Cleaning Fruit Trees..... 95

THE HOME CIRCLE.

Home Trials; The Fairy of the Rose Bush..... 96

THE YOUNG FOLKS' PAGE.

Astronomy, No. 3; Spring is coming..... 97
EDITOR'S TABLE.....98, 99

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Tyson,	Duchess d'Angouleme,	Louise Bonne de Jersey,	Glout Morceau,	Paradise d'Automne.
Buffum,	Doyenne Boussoch,	Seckel,	Lawrence.	

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